Univ. of Michigan,
General Library,
Ann Arbor, Mich.

Experience with Globin Insulin
Early Diagnosis in Cancer of the Colon
Regional Ileitis • Rectal Procidentia
Amyotrophic Lateral Sclerosis
Action of Theobromine-Calcium Gluconate
The Therapy of Gastric Disorders

Medical Book News Editorials
Contemporary Progress

Vol. 70 No. 6
Address all Exchanges and Books for Review to 1313 Bedford Avenue, Brooklyn, N. Y.


FOR RESTFUL SLEEP
Allonal Roche

EDITORIALS

Somatic Peculiarities of the Japanese

WHILE not strongly developed physically, the Japanese people are capable of great exertion and endurance. Notable somatic peculiarities are the divided malar bone (os japonicum), the low, broad upper jaw, without canine fossae, and the so-called "Japanese knee." In general physical conformation the males of the better class have a decidedly feminine or even childlike cast.

The average height of the male is 5 feet, 3½ inches; that of the female 4 feet, 10½ inches.

The ratio of height of head to length of body is greater than in Occidental peoples. In the latter the ratio is 1/8 to 1/7; the Japanese ratio exceeds the latter figure.

The legs are short relatively to length of trunk, and this can not be ascribed entirely to kneeling, as the working classes pass most of their time standing and yet show the same characteristic.

The Japanese eyeball is like that of the Occidental but the orbit is comparatively small and shallow, and the supra-orbital ridges only slightly marked, so that the eye is not deeply set. In profile, the forehead and upper lip usually form an unbroken line. The shape of the open eye, as modeled by the lids, is oblique because of the higher level of the temporal canthus. The nasal canthus is partly or entirely covered by a fold of the upper lid continuing more or less into the lower lid. This fold often covers also the whole free rim of the upper lid, so that the insertion of the eyelashes is hidden and the opening between the lids is so narrowed as to disappear altogether whenever the individual laughs. The eyelashes are short and sparse, but also they converge instead of diverging, and thus are nearer together than in Occidentals. The cheekbones are prominent and there is a marked paucity of facial hair. The face is broad, the mouth wide, the nose flat, and the neck short.

Another Wartime Aggression

DOCTORS' mail has of late been flooded with the following questionnaire, sent out by the Euthanasia Society of America:

1. Is it a humane act for a physician to shorten the life of a patient suffering from an incurable, painful disease like advanced and inoperable cancer, who pleads with him to do so?
   Yes ☐ No ☐
2. Should the law penalize such action as criminal?
   Yes ☐ No ☐
3. Should the law be amended to remove the penalty now imposed and permit *voluntary euthanasia* (i.e., euthanasia for those incurable sufferers who demand it) with strict safeguards against abuse?
   Yes ☐ No ☐
4. Should the law be amended to permit euthanasia, with strict safeguards against abuse for:
   (a) Adults who are imbecile, idiotic or incurably insane?
   Yes ☐ No ☐
   (b) Infants who are imbecile, idiotic

or congenital monstrosities?
Yes ☐ No ☐
Name .....
Please print
Address .....
Assembly District No. .....

This precious outfit, operating along Assembly District lines, claims in an accompanying letter that 4,082 New York physicians have endorsed the aims of the Euthanasia Society.

Under a totalitarian organization of society the ailing patient's privilege of being taken into "protective custody" by an efficient Gestapo would doubtless command a one hundred per cent affirmative reply to similar inquiries. Since that weird social estate will never be reached in this country, we imagine that a majority of the profession and of the public will still continue either to vote No or to ignore the communications of these altogether too well meaning gentry.

Can it be that these do-gooders are bent upon conferring an alleged new freedom upon selected casualties of both the First and Second World Wars as well as upon the civil population?

A thoughtful and touching service for the derelicts of war—and what a triumph for the principles of totalitarian expediency and utter efficiency!

Is not this stepped-up zeal at this particular time, in behalf of legalized killings, unseemly?

Arrival and Arrest of the Totalitarian Clinic

INVESTIGATORS of a clinic recently brought under the fire of the local courts and of New York State authorities found not merely a $500,000-a-year business but also hundreds of patients being treated en masse for individual ills, the most frequent treatment consisting of listening to suggestions that they were getting better.

Such hocus-pocus seems to link up well with totalitarian technique in general. The individual as such being of no account, it follows that mass methods in the treatment of psychoneurotic ailments are logical. What a lot of trouble is thereby saved!

Undoubtedly under a totalitarian régime psychoneurotic disorders would overshadow in volume all other ailments. Goebbels-like medical men would then deal with the herds of patients as in the clinic now under official scrutiny here.

The raiding of the clinic in question is a healthy sign.

The Role of the Spa in Rehabilitation

FOR no good reason, the great value of spa treatment like that, for example, provided at Saratoga Springs, has not been fully realized by the public or profession. The war now in progress will compel complete recognition and utilization because the spa's methods of rehabilitation meet adequately the requirements of both the civil and military populations with respect to many injuries and chronic diseases. Convalescence from wounds and diseases can be ideally dealt with in many instances by well-equipped spas. As centers of recreation for army and navy personnel on furlough the spas will also receive, undoubtedly, governmental consideration in days of war to come.

Bearing on this subject is McClellan's recent article in the *Archives of Physical Therapy*, 22:656, November, 1941. This article may be found abstracted in our March, 1942 issue, with a comment by Dr. Norman E. Titus.

New York Physical Therapy Society

AT ITS Annual Meeting, held at Lenox Hill Hospital, the New York Physical Therapy Society elected the following officers.

President—Harold Neifeld, M.D.
Vice-President—Charles G. Buckmaster, M.D.
Treasurer—Richard Kovacs, M.D.
Secretary—Madge C. L. McGuinness, M.D.
Executive Committee—Lewis J. Silvers, M.D. Chairman; Stella S. Bradford, M.D.; Karl Harpuder, M.D.; Sidney Licht, M.D.; Michael J. O'Connor, M.D.

CLINICAL EXPERIENCE

with Globin Insulin

ABEL LEVITT, M.D., F.A.C.P. and
JAMES P. SCHAUS, A.B., M.D.
Buffalo, New York

THIS communication is an analysis of 38 cases of diabetes mellitus treated with globin insulin on the diabetic service of the Edward J. Meyer Memorial Hospital, Buffalo, New York. We have observed 50 cases under this form of treatment, but 12 of this group were unable to remain for the completion of the study; their response to this form of therapy was essentially the same as those we are reporting. All of our patients under this study were admitted to the hospital, where they were placed at once on a maintenance diet. We gave our patients approximately 30 calories per kilo of body weight per day. The weight of each patient was corrected to 10 pounds under the normal for the age and sex. The diet in each case was arranged, at the beginnnig, for long-acting insulins and later somewhat modified as to meal content with the different types of insulin. However, the total caloric value in each case was not disturbed.

Our patients were first standardized on regular insulin. Each received a sufficient number of units one-half hour before each meal to free the urine of sugar, the 24 hour output of urine being collected and examined daily in three divisions; that from breakfast to dinner, dinner to supper, and supper to breakfast. When all the urine samples throughout the day were sugar-free and continued so for several days, the blood sugar content was determined before breakfast, dinner, and supper, and in some instances, at midnight. We made no effort to reduce the blood sugar to normal levels after the patient had been rendered free from sugar in the urine. Having determined the amount of regular insulin required to standardize each patient on a given diet, we next rearranged the meals of the diets, without changing their caloric value, so that the patients received two-tenths of the carbohydrate for breakfast, three-tenths of the carbohydrate for dinner, four-tenths for supper, and one-tenth as an extra lunch at 10 P.M. The protein in the diet was divided one-sixth for breakfast, one-third for dinner, and one-half for supper. The diets now contained the maximum calories and carbohydrates toward the end of the day and each patient was now standardized with protamine zinc insulin. When the urine was sugar-free for several days, the blood sugars were again studied before each meal, as recorded in the tables.

We next arranged the carbohydrates in the diet so that two-tenths were given for breakfast, four-tenths for dinner, one-tenth at 4:00 P. M., and three-tenths for supper; the total caloric value of the diet was unchanged. The patients were now standardized for globin insulin, and when the urines were sugar-free, the blood sugars were studied as before.

IN uncomplicated mild diabetes, a group of five patients required an average daily amount of 55.5 units each of regular insulin. In each instance, the daily units were divided into three doses, one before each meal. In the same group, but with protamine zinc insulin, the average number of units was only 32.6 and only one injection was required daily, one-half hour before breakfast.

With globin insulin, the average daily number of units required was still less, being 22.2 units given in one dose daily,

From the Medial Service of the Edward J. Meyer Memorial (Buffalo City) Hospital and the Medical School of the University of Buffalo.

Uncomplicated Diabetes (Mild)

REGULAR INSULIN							PROTAMINE INSULIN						GLOBIN INSULIN					
	Units			Blood Sugar			Units			Blood Sugar			Units			Blood Sugar		
Case	B	D	S	B	D	S	B	D	S	B	D	S	B	D	S	B	D	S
1	10	10	4	210	240	190	15	..	..	204	318	160	12	..	..	238	216	146
2	24	15	18	151	...	...	28	..	..	65	151	190	14	..	..	224	264	230
3	25	25	25	216	64	160	40	..	..	179	250	168	25	..	..	250	190	230
4	20	18	20	111	108	91	40	..	..	80	142	100	30	..	..	120	111	132
5	20	23	20	200	236	142	40	..	..	182	334	160	30	..	..	200	222	200
Aver. Daily Units 55.5 per patient				Aver. 177.6	Bl. Sugar 162	140.7	Av. Units 32.6 per patient			Aver. Bl. Sugar 142.0	239.0	155.6	Av. Units 22.2 per patient			Aver. Bl. Sugar 206.4	200.6	187.6

TABLE 1.

one-half hour before breakfast. It is therefore evident from the table that in this group of mild diabetics, 31 per cent less insulin was required to standardize the patient with the use of globin insulin as compared to protamine zinc insulin, and without an increase in the number of injections per day.

IN the more severe uncomplicated diabetes, using a fixed caloric intake and arranged as in the preceding group, the average number of units of regular insulin required to standardize the patients was 92.9 as compared to 64.5 units of protamine insulin, while with globin insulin, the same group was standardized with an average of 39.1 units per day—a considerable saving in the amount of insulin required.

In complicated diabetes, including patients with acute infections and degenerative diseases, the average daily number of units of regular insulin required to standardize the group was 63.3 units. The same group was then standardized with protamine zinc insulin and required 43.1 units as an average daily dose, while with globin insulin, standardization was accomplished with an average of 38.3 units daily.

IN the treatment of diabetes with regular insulin, our patients required a minimum of 3 doses per day and with these the blood sugars fluctuated considerably throughout the day. Hypoglycemic reactions when present usually occurred two to four hours after the preceding injection of insulin. With protamine zinc insulin, the majority of patients studied were controlled with a single dose daily. This dose was less in units than the total amount of regular insulin and the blood sugars were lowest after midnight. Frequently hypoglycemic reactions occurred during the night or before breakfast. Similarly some patients presented local skin reactions at the site of injection. With protamine zinc insulin our patients were well controlled

Uncomplicated Diabetes (Moderate to Severe)

REGULAR INSULIN							PROTAMINE INSULIN						GLOBIN INSULIN					
	Units			Blood Sugar			Units			Blood Sugar			Units			Blood Sugar		
Case	B	D	S	B	D	S	B	D	S	B	D	S	B	D	S	B	D	S
1	25	12	18	178	88	128	53	..	..	200	196	210	39	..	..	250	276	77
2	25	20	20	196	190	137	50	..	..	78	246	...	28	..	..	125	84	82
3	35	28	35	196	210	180	78	..	..	87	112	142	50	..	..	97	61	119
4	38	35	40	154	87	80	75	..	..	75	95	98	50	..	..	133	130	162
5	45	35	43	164	164	127	80	..	..	115	154	123	40	..	..	111	143	111
6	40	40	25	87	182	84	65	..	..	59	166	162	65	..	..	133	134	204
7	30	30	30	175	177	88	50	..	..	135	109	166	20	..	..	184	190	574
8	35	35	40	187	216	146	70	..	..	91	80	150	30	..	..	154	168	160
9	35	35	35	92	86	46	60	..	..	148	127	136	30	..	..	198	76	210
10	30	15	20	174	...	...												
Aver. Daily Units 92.9 per patient				Aver. 160.3	Bl. Sugar 155.5	112.8	Aver. Daily Units 64.5 per patient			Aver. Bl. Sugar 109.7	142.7	131.8	Aver. Daily Units 39.1 per patient			Aver. Bl. Sugar 153.8	140.2	166.5

TABLE 2.

as regards glycosuria. There was, however, considerable fluctuation of blood sugars due to the very prolonged action of this type of insulin—twenty-four to forty-eight hours. This type of insulin also requires that the diet be arranged so that the maximum number of calories and amount of carbohydrates be given toward the end of the day when the blood sugars are lowest.

Globin insulin exerts its maximum effect in about eight hours and is almost completely used up in eighteen hours. Hypoglycemic reactions when present usually occur in the afternoon, which can be obviated by proper arrangement of the diet.

Complicated Diabetes

	REGULAR INSULIN						PROTAMINE INSULIN						GLOBIN INSULIN					
	Units			Blood Sugar			Units			Blood Sugar			Units			Blood Sugar		
Case	B	D	S	B	D	S	B	D	S	B	D	S	B	D	S	B	D	S
1	20	8	14	266	236	116	24	..	..	196	109	195	18	..	..	192	117	125
2	20	15	16	118	218	118	39	..	..	118	112	130	26	..	..	118	139	98
3	..	..	..	...	...	...	40	..	..	95	138	142	18	..	..	89	180	123
4	16	12	16	82	94	180	25	..	..	93	89	143	20	..	..	74	80	122
5	20	25	18	140	90	100	43	..	..	160	194	172	30	..	..	180	194	200
6	22	20	25	222	250	138	50	..	..	130	101	95	35	..	..	91	158	152
7	30	15	20	174	100	100	35	..	..	67	166	200	60	..	..	77	91	100
8	18	18	15	138	190	178	38	..	..	154	143	174	35	..	..	160	152	133
9	20	20	20	266	250	276	70	..	..	118	200	166	40	..	..	174	198	125
10	32	25	25	143	110	91	50	..	..	125	100	98	40	..	..	118	133	222
11	20	20	20	210	220	236	40	..	..	133	286	110	45	..	..	114	174	148
12	42	40	38	167	87	222	85	..	..	105	175	100	65	..	..	100	166	200
13	34	17	22	149	93	160	50	..	..	190	152	78	35	..	..	160	266	118
14	..	..	..	...	...	...	40	..	..	140	262	105	32	..	..	131	236	170
15	10	10	10	143	190	80	25	..	..	143	174	178	20	..	..	160	222	118
16	28	18	20	154	184	216	40	..	..	148	154	154	30	..	..	148	154	182
17	15	15	15	167	118	106	35	..	..	53	74	75	45	..	..	148	236	105
18	10	10	10	148	168	140	28	..	..	142	166	174	25	..	..	154	130	170
19	50	40	20	125	68	71	65	..	..	110	138	142	35	..	..	182	128	162
20	28	24	26	146	166	110	53	..	..	154	143	105	40	..	..	42	111	111
21	25	25	25	334	140	250	50	..	50	82	308	278	75	..	..	164	264	400
22	12	12	12	160	77	75	25	..	..	70	87	91	25	..	..	148	121	144
23	28	28	25	200	200	100	..	..	..	...	...	...	88	..	..	160	77	35
Aver. Daily Units 63.3 per patient				Aver. Bl. Sugar 173.9 154.7 145.8			Aver. Daily Units 43.1 per patient			Aver. Bl. Sugar 123.9 157.7 141.1			Aver. Daily Units 38.3 per patient			Aver. Bl. Sugar 134.0 162.0 150.5		

TABLE 3.

Conclusion

GLOBIN insulin is a clear solution and thus more easily and accurately handled by the patient. It produces no local reactions and requires a minimum number of units per day. Hypoglycemic reactions, when present, occur eight to twelve hours after injection, when the patient is still active and can readily take care of it. One injection of globin insulin daily was sufficient to maintain a normal urine and an approximately normal blood sugar. We believe that globin insulin has a definite place in the management of diabetes mellitus.

333 LINWOOD AVENUE.

American Association of Railway Surgeons

THE American Association of Railway Surgeons, the top organization of railway medical men, is pointing now for its 53rd Annual Convention and Exposition scheduled for Chicago, September 10, 11 and 12, at the Palmer House, where an attendance of at least 2,000 is planned. Programming for this convention is already under way and preliminary plans indicate that the subjects to be discussed will put new emphasis upon the necessity for further improvement and enlargement of railway medical and hospital facilities and equipment.

Cancer OF THE COLON

A Plea for Early Diagnosis

MOSES BEHREND, M.D., F.A.C.S.

Philadelphia, Pa.

IT is a well known fact that cancer is one of the greatest problems confronting modern medicine today. Because of the enormous amount of literature on the subject, it is difficult to evaluate the progress made within the last few years. That there has been progress is definitely acknowledged. In no small measure this is due to an awakened "cancer conscious" public, enlightened by the members of the Women's Field Army for Cancer Research. Their mission is to bring home to families the facts of the simple signs of cancer, and the necessity of seeking the aid of the surgeon and radiologist immediately. For it is obvious that in order to obtain cures, the physician must see the patient early in the development of the lesion.

The number of advanced cases of carcinoma in the young is increasing, especially among women. Cancer of the colon between the ages of 20 and 40 is not uncommon, comprising about 20 per cent of the total. At puberty it is encountered as a most malignant type.

WHAT are the signposts that lead to an early diagnosis of cancer of the colon? First, continued pain in the abdomen; or there may be an unexplained discomfort due to varying degrees of distention. In these cases radiography is unquestionably the most important single measure to detect early carcinoma of the colon. Should the x-ray be negative, yet the symptoms persist, repeated radiographs at three month intervals should be taken. A barium enema will reveal a lesion of the colon long before it can be palpated. With the double contrast enema polyps of the colon can be detected early. It has been stated that polyps of the colon are malignant in 95 per cent of the cases operated on. Again constipation, appearing for the first time in an individual, should be regarded as a very suspicious symptom; likewise the occurrence of diarrhea with alternating constipation. While pain is an early symptom, constipation and alternating diarrhea are rather late manifestations. Daily administrations of purgatives are of course not indicated.

It must be borne in mind that the symptoms of cancer of the colon may vary, depending on the location of the lesion. Cancer in the region of the cecum or ascending colon may give rise to a profound anemia. Therefore one should always be alert to the possibility of a malignant condition of the colon where symptoms suggestive of pernicious anemia are present.

In cancer of the descending colon and sigmoid, we find a very definite constrictive lesion, which becomes more and more narrow, until absolute constipation and signs of intestinal obstruction are present. Still lower down in the colon, we encounter the ulcerative and perforative type of cancer; this may give rise to the presence of blood and mucus in the stools, a late symptom of cancer of the colon.

Without competent radiography, diagnosis of any cancer within the abdomen is difficult, because in its early stages, unlike cancer on the exposed parts of the body, such as the skin or breast, it cannot be palpated.

IT is an indisputable fact that only thorough surgery has given the best results

From the services of the Jewish and Mount Sinai Hospitals.

Part of Symposium. Read at Cancer Meeting of the Philadelphia County Medical Society, April 8, 1942.

in cancer of the colon. The type of operation required depends on the location of the lesion. An exploratory operation should be performed in cases with persistent symptoms. An early carcinoma of the splenic colon may be revealed. Primarily treatment by radium or x-ray should not be used in these cases. It is also of questionable help in advanced cases.

The American College of Surgeons reports as of 1941, 38,855 five-year cures in cancer of all parts of the body. Of these 3,250 five-year cures were for carcinoma of the colon, a gratifying yearly increase in the cure of this dread disease. There is no doubt that cancer clinics and cancer education must be given credit in this satisfactory increase in cures because of early recognition and timely interference on the part of the surgeon.

Finally, insistence on an annual or semi-annual periodic health examination is valuable, especially after the age of 40, when frequently early cancer symptoms may be revealed. Early operation may prevent metastasis to other organs, so often found in young patients, and lessen the extensive operations of the advanced case.

In our experience we have found that the results obtained for cancer situated in the colon are better than those found in any other area of the gastro-intestinal tract. Therefore it behooves every physician to send his patients early to the surgeon so that the greatest service can be given a patient suffering from this rapidly increasing type of cancer.

1738 PINE STREET.

CLINICAL NOTES

Experience with the Rehn-Délorme Operation for Rectal Procidentia

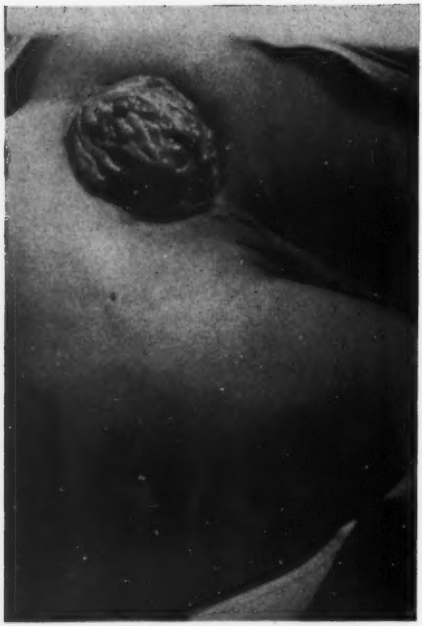
ROBERT I. HILLER, M.D., F.A.C.S.

Milwaukee, Wisconsin

IN this communication, we are particularly interested in the type of procidentia which occurs in adults. We shall not consider the condition as it occurs in children. Numerous operations which have been suggested for this condition are evidence to the effect that many of them have been unsatisfactory. At the outset, one must differentiate between prolapse and procidentia.[1] Prolapse refers to the abnormal descent of the mucous membrane of the rectum, whereas procidentia indicates the abnormal descent of all the coats of the bowel. The condition is more commonly seen in the earlier and later years of life. It is more commonly found in women than in men. The relaxation of pelvic structures with the possible absorption of the elastic tissue, weakness of the pelvic musculature, elongated mesocolon, and abnormally low lying cul-de-sac are factors which have all been suggested as having a bearing on the development of the condition. Constitutional conditions such as prolonged wasting, tabes dorsalis, etc., are also recognized as etiological factors.

Moschowitz[2] emphasized the presence of an abnormally deep cul-de-sac, and designed his operation to obliterate this cul-de-sac. The operation consisted of a series of purse-string stitches starting at the bottom of the cul-de-sac and working upward. The operation necessitates a laparotomy and is not without danger from the standpoint of infection, because the anterior rectal wall must be included in each purse-string stitch.

The operation of simple linear cauterization of the procidentia has not been satisfactory from my observations. For pro-



lapse of the mucosa, it is quite satisfactory; but for a real procidentia it has many shortcomings.

The operation of Duret[3], which consists of excision of elliptical portions of the mucous membrane from the long axis of the bowel, is based upon the same principle as the linear cauterization and carries with it the same disadvantages.

Numerous operations have been devised to fix the rectum posteriorly after excising the coccyx. I have had no experience with these operations, but, since they fail to correct one of the results of procidentia, namely, a very marked relaxation of the anal sphincter, I see no reason why recurrence could not develop after such procedures.

A method of strangulating the protruding gut by placing strong rubber bands at the base of the prolapse was described by Reid[4] in 1933. Wangensteen[5] used this method, but, for the past four years, has favored the Délorme operation.

THE REHN-DELORME OPERATION is especially adapted to procidentia of six inches or less, notably where the sphincter muscles are atonic. It can be accomplished under local or caudal anesthesia, and, though there is considerable loss of blood, very little shock results. The operation, however, is very tedious and requires very painstaking dissection, since numerous small blood vessels are encountered throughout the entire dissection.

An incision is made through the mucous membrane at the anorectal line. The mucosa is then removed from the prolapsed segment as far as the apex of the prolapse.

Fig. 1
(Left above)

Procidentia of the rectum in a man, aged 45. Transverse corrugations of mucosa indicate procidentia rather than prolapse.

Fig. 2
(Left below)

Rehn-Delorme Operation — The dissection of mucosa from the anorectal line to the apex of the procidentia.

Longitudinal fine chromic catgut stitches are then inserted into the muscular coat of the denuded bowel beginning in the anorectal line and ending at the apex. When all these stitches have been inserted, the

prolapse is returned into the pelvis and the stitches tied. In order to overcome the relaxation of the sphincter, mattress stitches are then inserted in several areas of the sphincter. The patient is returned to bed, and the bowels are treated as in a case of hemorrhoids.

The following case will illustrate one of the complications which must be anticipated from the operation.

The patient is a white male, aged 45, who was admitted to the Mount Sinai Hospital on June 29, 1941, with a history of piles of ten years' duration. For the past ten years, he said that he had been bothered by a yellowish discharge following bowel movements and that he frequently felt a mass about 1½ inches long come down. The mass would recede by itself. The patient also has a history of peptic ulcer, which was diagnosed by x-ray and for which he had been receiving treatment.

Physical examination disclosed an apparently healthy white male with pulse 84, temperature 98.4, respirations 20, blood pressure 130/88. The positive findings consisted of an old appendectomy scar with a large rectal procidentia. Laboratory findings were as follows: Kline negative. R.B.C. 4,260,000. Hemoglobin 14 gms. Color index 1.0. W.B.C. 11,050. Non-segmented polys 30 percent, segmented polys 43 percent, lymphocytes 23 percent, monocytes 4 percent. Urinalysis: straw colored, clear, 1.010, acid reaction, albumin and sugar negative. Microscopic examination: 8 to 10 W.B.C.

The operation was conducted under 2 percent metycaine caudal block on June 30, 1941. It was accomplished according to the technic described above. At the termination of the operation a gauze covered tube, or "whistle", was inserted into the anal canal. This was left in place until the fifth day postoperatively. The postoperative course was completely uneventful. The temperature did not rise above 98.8, nor the pulse above 100. The patient left the hospital on the sixth postoperative day in excellent condition.

The patient reported to my office on July 18, 1941, with a very satisfactory result except for the presence of pruritus ani. He returned again on August 2, 1941, when it was deemed prudent to insert the examining finger for evaluation of the result. At a point 1½ inches above the anal sphincter a stricture was encountered which ad-

Fig. 3
(Left)

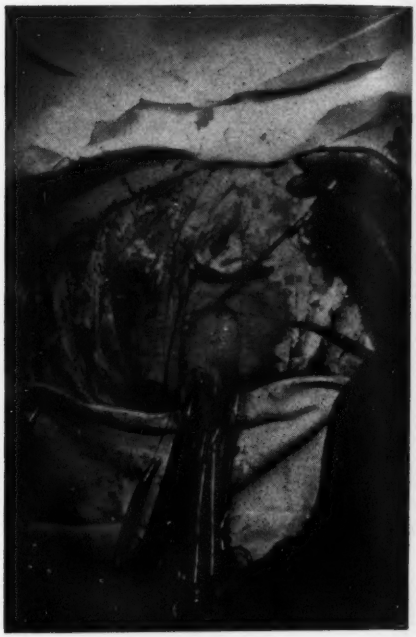
Rehn-Delorme Operation—The mucosa has been completely dissected from the anorectal line to the apex of the procidentia.

Fig. 4
(Below)

Rehn-Delorme Operation—The first longitudinal fine chromic catgut stitch has been inserted into the muscular coat of the denuded bowel beginning in the anorectal line and ending at the apex.

Fig. 5

Rehn-Delorme Operation—Several stitches, as illustrated in No. 4, have been inserted. The mucosa is now ready to be amputated and all stitches tied after the prolapse has been replaced. A few mattress stitches are then inserted into the sphincter muscle which is shown grasped in the Allis forceps held in the operator's right hand.



mitted only the tip of the index finger. This stricture was dilated by successive treatments so that eventually a full sized sigmoidoscope could be passed for final inspection of the results without any difficulty. The result, to date, has been entirely satisfactory.

The mechanism of success in this procedure depends upon the removal of the mucosa over the external portion of the procidentia with the proper healing of the remaining edge of the mucous membrane to the region of the anal sphincter. When this occurs, the remaining coats of the denuded bowel are buckled into a doughnut of tissue which is just inside of the sphincter muscles. This doughnut, plus the tightened sphincter muscles, evidently prevents the recurrence of the prolapse.

References

1. Bacon, H. E. *Anus, Rectum, Sigmoid Colon.* Philadelphia, Lippincott, 1938, p. 400.
2. Moschcowitz, A. V. Pathogenesis, anatomy and cure of prolapse of the rectum, *Surg., Gynec. & Obst.*, 1912, *15*:7.
3. Duret, H. Sur la pathogénie et le traitement des prolapsus rectaux, *Bull. et mém. Soc. de chir. de Paris*, 1900, *26*:470.
4. Reid, M. R. Method of treating irreducible prolapse of rectum, *Am. J. Surg.*, 1933, *20*:359.
5. Wangensteen, O. Treatment of prolapse of the rectum and intussusception of the pelvic colon by strangulating the prolapsed gut with a rubber band, *Minnesota Med.*, 1934, *17*:219.

208 Wisconsin Avenue.

A TRAGEDY IN *Regional Ileitis*

A Case Report with Critical Discussion

HYMAN SNEIERSON, M.D., F.A.C.S.

Attending Surgeon City Hospital, Binghamton, New York

THE subject of regional ileitis since the original description by Crohn (5) and his associates in 1932 has been covered repeatedly in the literature. The clinical and pathological picture has been clearly defined and additional reports mostly emphasize factors which have been previously described. The treatment, however, is still not settled. In general, resection in one or more stages is advocated. Cutler (9) and his associates, however, feel that only medical treatment is necessary except in cases which are complicated by abscess formation, sinuses, obstruction, etc.

In analyzing twenty-three cases of regional ileitis (11, 12) the writer found one case which so completely covered the problems involved that a detailed report and analysis was prompted.

Case Report:

K. W., American, male, aged 22, was admitted to the Binghamton City Hospital 5/22/'34, with right lower quadrant pain of one year's duration. He had recurring attacks of pain and vomiting, accompanied usually by elevation of temperature. Three such attacks had occurred during the past three months. He had been treated for ulcers of the stomach with some relief. Despite Sippy diet, however, he became progressively worse. X-rays were negative for ulcer. He had lost much weight and was too weak to work. On admission his temperature was 100, pulse 112, respirations 20. The abdomen was soft and flat with no palpable masses. There was deep tenderness and rebound pain in the right lower quadrant.

In view of the tenderness and pain it was felt that he had a flare-up of a chronic appendicitis. He was operated 5/23/'34. The ileum was found to be thickened and red and covered with tubercle-like granulations. The mesenteric lymph glands were enlarged but discrete. There was no free fluid in the abdomen and the condition was not considered acute. A diagnosis of tuberculosis was made. The appendix was removed as a routine measure. Convalescence was uneventful. When discharged he was advised to go on an antituberculosis regimen.

Discussion:

THIS patient had a typical history of regional ileitis and was not diagnosed because at the time we were not aware of this clinical entity. The removal of the appendix was performed as a routine measure and according to most writers was contraindicated as fistula formation would result. In far advanced cases or in those with abscess formation this may be so but from personal experience we have not found it to be the case in an acute type.

The question what to do when subacute or chronic regional ileitis is found inadvertently at operation is still being debated. The writer feels that resection is indicated if the condition is definite and fairly advanced as was this case. Other writers, including Crohn (3), feel that conditions found inadvertently should be left alone, apparently with the hope that they would subside. This is contradictory inasmuch as Crohn (2) states that once the condition has progressed to the chronic stage it is irreversible and while it may become quiescent, complete cure is not to be expected. In the acute primary stage simple exploration with or without appendectomy is indicated. The difficulty, in the writer's hands at least, and from the literature, in others as well, has been in attempting to differentiate those cases which will regress and become clinically cured from those which will not do so. At present, it rests with the experience of the surgeon as to what procedure is done.

Progress:

The patient went to Florida and remained there until 5/5/'37. He followed carefully the treatment advised. There was apparent clinical cure until five months before admission. At this time his pain began again accompanied by diarrhea and vomiting. He lost twenty-five pounds in five months. On admission the temperature was 99, pulse 83, respirations 20. The hemoglobin was 81 per cent, with 4,250,000 red cells. There was a soft, tender, palpable mass just below the umbilicus to the left of the midline. The correct diagnosis was made and the patient was explored with the idea of doing a resection. The abdomen was found filled with extensive adhesions with involvement of the small bowel for several feet. Ileocecostomy was performed without section of the ileum. He was discharged 6/20/'37.

Discussion:

ONE of the things which has been brought out in the surgical treatment of this condition is that short-circuiting procedures are not satisfactory unless the ileum is sectioned. If this is not done the physiological rest which the procedure attempts to obtain is not present and, as a result, progression usually occurs. The use of ileocecostomy is also warned against by Crohn (3) because he feels that when the terminal ileum is involved, a certain amount of extension to the cecum is usually present and recurrence is to be expected. He therefore advises anastomosing elsewhere in the large bowel. The writer, however, has performed ileocecostomy in other cases with no ill effects and no recurrence. However, there were always several inches of normal bowel proximal to the ileum.

Progress:

He was re-admitted 7/11/'37 with the same complaints. The temperature, pulse and respirations were normal. On 7/15/'37, exploration showed that the condition had progressed to such an extent that not only was there much more small bowel involved but normal large bowel could not be obtained proximal to the recttosigmoid junction. An ileosigmoidostomy was done with side-to-side anastomosis and section of the ileum. He was discharged with marked clinical improvement 10/17/'37.

Discussion:

THE necessity for section of the ileum and the progression of the condition when this is not done is clearly demonstrated.

Progress:

He was re-admitted 1/18/'38 with essentially the same complaints. However, he had gained fifteen pounds in weight and was much better than he had been prior to the last operation. On 1/26/'38, a resection of the terminal ileum and ascending colon was performed with exteriorization of the distal end forming a permanent colostomy. The change in the appearance of the bowel was remarkable. The terminal ileum was firm, leather-like, and the extensive adhesions and apparent involvement of the large bowel had regressed to such an extent that the procedure was very simple. He improved somewhat but continued to have abdominal pain and frequent stools. The condition was believed due in part to the fact that the pelvic colon was bound down and this was freed in order to form a reservoir for the bowel contents. At this time the stoma of the ileosigmoidostomy was found patent and no signs of ileitis were noted. Improvement following this was slight. He was given transfusions, ultraviolet therapy, x-ray therapy (9), and other supportive measures. Despite this he was bedridden a good share of the time and was not able to work. In August, 1939, he was referred to Dr. Burrill Crohn for a complete check-up. Dr. Crohn stated that he could find no signs of ileitis and felt that he would be able to return to work in a few months. Despite this report, the patient continued to have pain and diarrhea and became gradually worse. He was re-admitted 1/3/'40, and permanent ileostomy (9) was done with closure of the opening in the sigmoid. The terminal ileum was thickened and dilated but looked perfectly normal. There were, however, several discrete lymph glands in the mesentery and microscopic examination of one of these showed active ileitis.

Discussion:

CUTLER (9) advises ileostomy in those cases which are not benefited by radical surgery and cities one such case with excellent results. Theoretically the above case should have been ideal. X-ray therapy (9) is also advised by him but was useless in this case.

Progress:

The patient became marasmic and went down hill rapidly despite transfusions and transfer of ileal contents into the colon through the permanent colostomy. On 3/14/'40 the ileostomy was therefore taken down and side-to-side ileotransversostomy performed. The patient improved and was discharged on 4/13/'40.

Discussion:

FAILURE of the ileostomy can be attributed to the fact that so little small bowel was left that intestinal absorption was insufficient for life. This was clearly evidenced by the improvement when ileocolostomy was re-established.

Progress:

He was re-admitted 5/1/'40 complaining of pain and soreness in the operative incision and showed elevation of temperature to 101.2. His general condition was about the same as when previously admitted. About a week later the wound broke open and formed a fecal fistula which continued to drain until his death of inanition six weeks later. His temperature dropped to normal when the fistula was formed.

Discussion:

ANALYSIS of this case with the idea of forestalling the tragedy is important.

Mistake I—At the time of the original admission to the hospital, despite the wrong diagnosis, he was treated exactly as advised by both Crohn (2) and Cutler (9), namely, rest, sunshine, etc. Nevertheless, the condition progressed. In retrospect, radical resection at this time might have resulted in a cure. Medical treatment, when the case is advanced, is useless.

Mistake II—On re-admission, ileocecostomy was done without section of the ileum. This resulted in progression of the disease and the necessity for ileosigmoidostomy and the subsequent removal of more bowel than was compatible with normal life. Proper surgery might have forestalled this.

The writer feels that surgery from then on was merely a desperate but useless attempt to stop an irreversible and hopeless condition.

The ability of patients with regional ileitis to withstand numerous operative procedures is clearly demonstrated in this report. This is due to the immunization of the peritoneum which occurs and in itself demonstrates why multiple stage procedures will result in a low mortality in the hands of the average physician.

Summary:

A REVIEW of the literature and personal cases leads the writer to the following conclusions:

(1) Advanced regional ileitis whenever found should be treated as a surgical emergency similar to a malignancy. Resection in one or more stages or an ileocolostomy with section of the ileum is indicated as soon as the patient's condition permits.

(2) In acute cases removal of the appendix does not of necessity result in fistula formation and therefore this may be done if desired. In advanced cases, however, removal of the appendix is not indicated as more radical surgery is needed.

(3) Once the condition has reached the advanced stage, even if abscess or fistula formation is not present, it is irreversible

and must be treated surgically by any of the procedures mentioned above.

(4) Advanced cases of regional ileitis have of necessity immunized the peritoneum to a great extent and therefore major surgical procedures are feasible, especially if multiple stages are used.

(5) Ileostomy may be indicated as advanced by Cutler (9) but sufficient small bowel must be present.

(6) As long as regional ileitis is allowed to progress after the diagnosis is made, we must expect poor results.

67 MAIN STREET.

Bibliography

1. Crohn, B. B. Regional ileitis, *Surg., Gynec. & Obst.*, 1939, *68*:314.
2. Crohn, B. B. Regional ileitis, *Am. J. Surg.*, 1939, *46*:74.
3. Crohn, B. B. Regional ileitis; address before Binghamton Academy of Medicine, October, 1939.
4. Crohn, B. B., and Berg, A. A. Right-sided (regional) colitis, *J.A.M.A.*, 1938, *110*:32.
5. Crohn, B. B., Ginzburg, L., and Oppenheimer, G. Regional ileitis, a pathologic and clinical entity, *J.A.M.A.*, 1932, *99*:1323.
6. Crohn, B. B., and Rosenak, B. D. Combined form of ileitis and colitis, *J.A.M.A.*, 1936, *106*:1.
7. Colp, R., and Ginzburg, L. Ileocolostomy with exclusion in the treatment of regional ileitis, *New York State J. Med.*, 1941, *41*:982.
8. Cutler, E. C. Cicatrizing enteritis; a neglected clinical entity, *Proc. Interstate Postgrad. M. A. North America*, 1937:132.
9. Cutler, E. C. A neglected entity in abdominal pain and a common disease—cicatrizing enteritis, *New York State J. Med.*, 1939, *39*:328.
10. Ginzburg, L. Persistent abdominal fecal fistulas due to regional ileitis, *Surgery*, 1940, *7*:515.
11. Sneierson, H. Treatment of regional ileitis, *New York State J. Med.*, 1941, *41*:1755.
12. Sneierson, H., and Ryan, J. Regional ileitis, *Am. J. Surg.*, 1941, *52*:424.

HYPOTENSIVE ACTION OF *Theobromine-Calcium Gluconate*

VIRGIL WIPPERN, M.D. and SAMUEL A. GUNN, M.D.
Chicago, Illinois

DURING the past fifteen years the use of the xanthine derivatives has become definitely established through clinical (1, 2, 3) and experimental (4, 5, 6, 7) investigation in the therapeutic field for certain cardiovascular diseases. These diseases include angina pectoris, coronary sclerosis, myocarditis, occlusive vascular disease of the extremities, hypertension and congestive failure, in the last case the xanthines being employed in conjunction with digitalis. No doubt the rationale for prescribing this class of drugs has rested chiefly on their diuretic and sustained vasodilator actions. It is held by some, however, that the purine bases exert no specific beneficial effect in cardiac pain (8).

Of the xanthine derivatives, theobromine was the first to be used in the treatment of coronary artery disease, having been recommended as far back as 1895 for angina pectoris and cardiac asthma (9). Since then time has borne out the effectiveness of theobromine and has shown that it possesses certain qualities which make it superior to other xanthine bases. With respect to its effect on the peripheral circulation, evidence has been recently collected to show that theobromine acts as a dilator of these vessels (10, 11). It also increases coronary flow in the experimental animal (7) and Gilbert and Fenn (12), using the intact animal, found that theobromine was more effective in increasing coronary circulation than other purines. Also, clinically, theobromine preparations have been

noted to be more efficacious in the treatment of angina pectoris than theophylline and aminophylline (3) as well as being devoid of untoward side reactions. In this respect, theobromine in the form of a calcium gluconate preparation has proved non-irritating to the gastric mucosa (2) and therefore has met the heretofore serious objection to the use of the xanthines. Recent studies on methods of overcoming gastric irritation in drug therapy have brought to light that calcium gluconate possesses a protective action against digestive disturbances which appears to be due to reduction of acid irritation and also, in part, to some systemic action of calcium (2).

Authors' Study on Hypertension

THE purpose in attempting to reduce the blood pressure in a group of hypertensive patients was based not only on relieving the unpleasant symptoms of this condition but also on preventing, if possible, more serious cardiovascular sequelae. Theobromine-calcium gluconate was chosen as the therapeutic agent because of its vasodilator action and its relative freedom from gastric side-effects. Ziskin (2), among others, reported favorable results in the majority, and very striking results in some, of the 52 cardiovascular cases treated with this drug. About half of his patients were hypertensive or hypertensive with cardiac decompensation. This author particularly noted the absence of untoward effects following administration of theobromine-calcium gluconate.

Since this drug was to be administered over an extended period of time, it was decided to employ it in the form of an enteric coated tablet in order to doubly insure freedom from gastric disturbance. Thirty ambulatory patients were selected at random, ranging in age from 35 to 81 years and with initial blood pressures varying from 158/110 to 250/100. The patients' complaints included headache, vertigo, restlessness and asthenia. There were no apparent kidney involvements, except possibly in one case. One patient was believed to have coronary artery disease. Treatment comprised administration of 1 to 2 tablets of theobromine-calcium gluconate three times daily, each tablet containing 5 and 2½ grains of theobromine and calcium gluconate, respectively. The course of treatment varied from a few weeks to 6 months, the mean being about 2 months. Blood pressures were taken on frequent occasions before administration of the drug and at regular intervals during the course of treatment and always with careful precautions to insure physical rest and mental calm.

THE accompanying table shows that when medication was withdrawn, the blood pressures in 57 per cent of the patients were from 29-39 mm. (systolic) lower than initial pressures, and in 23 per cent there was a reduction of 40-66 mm. The remaining cases showed on the average a reduction of 11 mm. In 80 per cent of the patients, therefore, therapy with theobromine-calcium gluconate was able to reduce the blood pressure 20 or more mm. of mercury, the average reduction being considerably more than 20 mm. This decrease in systolic blood pressure was a gradual one extending over the course of treatment. For the sake of brevity, only the initial blood pressures and those at the time medication was terminated are given in the table. As the last column indicates, there was a tendency for the blood pressure to rise again during the period following the termination of treatment. The readings, however, in most of these cases were usually somewhat lower than the corresponding original pressures. It would seem, therefore, that some of the beneficial effects resulting from this therapy continue beyond the actual period of medication.

As for the subjective symptoms accompanying the hypertension, a noticeable improvement in the majority, and total disappearance in some, could be reported. Furthermore, no untoward reactions due to the drug, such as nausea, vomiting or other digestive disturbances, occurred.

Summary and Conclusions

1. Thirty patients with essential hypertension were treated with theobromine-calcium gluconate for varying periods of time. The results are tab-

Table Showing the Effect of Therapy with Theobromine-Calcium Gluconate Upon Hypertension Among Thirty Patients

Case	Initial Blood Pressure	Period of Treatment	Blood Pressure at the End of Treatment	Blood Pressure at Varying Periods After Cessation of Treatment
1	180/90	3½ mos.	160/90	
2	205/105	3 wks.	165/90	
3	240/105	2 wks.	180/110	
4	200/120	3 wks.	190/90	
5	240/140	2 mos.	190/120	
6	220/120	6 mos.	190/110	
7	195/95	3 mos.	155/90	
8	215/120	1½ mos.	185/115	
9	225/110	2 mos.	180/100	4 mos. later: 190/105
10	240/140	1 mo.	200/120	
11	230/140	1½ mos.	194/90	2 wks. later: 196/90
12	174/120	1 mo.	148/90	1 mo. later: 158/94
13	212/120	1½ mos.	184/98	1½ mos. later: 198/108
14	192/100	1½ mos.	154/86	1 mo. later: 160/90
15	180/98	1 mo.	162/90	
16	158/110	1½ mos.	132/88	1 mo. later: 136/90
17	198/110	1½ mos.	194/102	1 mo. later: 210/112
18	212/108	2 mos.	192/88	1 mo. later: 212/110
19	230/140	1½ mos.	196/90	
20	170/100	2 mos.	152/88	1 mo. later: 164/92
21	220/130	2 mos.	198/110	
22	190/100	1½ mos.	152/90	2 mos. later: 162/94
23	184/90	1½ mos.	154/86	
24	170/90	1½ mos.	168/90	1 mo. later: 168/90
25	250/100	4 mos.	184/90	
26	178/110	1½ mos.	152/90	
27	210/116	3 mos.	192/98	
28	178/110	1½ mos.	142/82	
29	192/106	1½ mos.	166/88	1 mo. later: 172/90
30	176/98	1 mo.	144/80	1 mo. later: 148/90

ulated herein.

2. From the results of this study, it may be stated that theobromine-calcium gluconate, when given in proper dosage and over a sufficient period of time, leads to significant reduction of the blood pressure. It is concluded, therefore, that this drug acts to effect peripheral vasodilation.
3. The beneficial effects of this drug extend beyond the actual period of its administration, although there was a tendency for the blood pressure to rise after withdrawal of medication. Many of the subjective complaints, such as insomnia, headache, restlessness, etc., were partly or completely relieved.
4. No gastric irritation was noted following administration of theobromine-calcium gluconate. No doubt both the enteric coating and the presence of calcium gluconate in the drug eliminated the occurrence of digestive upsets so often observed in xanthine therapy.
5. Proper treatment of essential hypertension with theobromine-calcium gluconate should help postpone and may possibly prevent the advent of the more malignant cardiovascular pathologies which commonly follow elevated blood pressures of long standing.

7449 Cottage Grove Avenue.

Bibliography

1. Smith, F. M., Rathe, H. W. and Paul, W. D. *Arch. Int. Med.* 56:1250, 1935.
2. Ziskin, T. Jl.—*Lancet* 56:292, 1937.
3. Gilbert, N. C. and Kerr, J. A. *J.A.M.A.* 92:201, 1929.
4. Smith, F. W., Miller, G. H., and Graber, V. C. *J. Clin. Invest.* 2:157, 1925.
5. Stoland, O. et al. *J. Pharm. and Exp. Therap.* 51:387, 1934.
6. Gowler, W. et al. *Arch. Int. Med.* 56:1242, 1935.
7. Heathcote, R. St. A. *J. Pharm. and Exp. Therap.* 16:327, 1920-1.
8. Gold, H., Kwitt, N. T. and Otto, H. *J.A.M.A.* 108:2173, 1937.
9. Askanazy, S. *Arch. Klin. Med.* 1895.
10. Newell, C. E. and Allen, E. V. *J. Tenn. Med. Assn.* 27:291, 1934.
11. Scuphan, G. W. *Arch. Int. Med.* 54:685, 1934.
12. Gilbert, N. C. and Fenn, G. K. *Arch. Int. Med.* 44:118, 1929.

THE THERAPY OF *Gastric Disorders*

RUSSELL G. CUSHING, M.D.
Detroit, Michigan

THERE is ample evidence to indicate that acid gastric juice plays a significant role in the pathogenesis of gastritis. This is especially so in gastric ulceration. The important problem of ulcer therapy, therefore, is to control the reaction of the gastric contents. Alkalies have been used extensively for this purpose but there are few reports showing the degree of neutralization actually obtained. One thing is certain—the physician must remove the underlying cause, whether it be nervousness, over-eating, improper diet, smoking or too much alcohol. Obviously it is the first duty of the physician to determine the exact nature of the exciting factor if at all possible, and it is evident that the gastritis will be remedied if the gastric mucosa can be protected from mechanical and chemical irritation.

Reports would indicate that certain antacids stimulate gastric secretions whereas others have an inhibitory effect. Crohn[1], Lockwood and Chamberlin[2] and Boyd[3] have supported the contention that alkalies increased gastric acidity, while Keefer and Bloomfield[4] found that alkalies quantitatively neutralized the gastric contents. The first scientific attempt to control the reaction of the gastric contents was made by Sippy[5] in 1915, with the administration of milk and cream and alkalies at hourly intervals. Although this routine neutralized completely the free acidity in most instances, Palmer[6] found many cases in which the neutralization was not satisfactory. This was verified by Wosika[7], and Foldes[8] inferred that the routine stimulates gastric secretion.

REID[9] found magnesium trisilicate a satisfactory substitute for the alkalies commonly employed to control gastric acidity. It was slightly less prompt in neutralizing action but its effect was more prolonged. Crohn[10] investigated aluminum hydroxide and found that it reduced the emptying time of the stomach, lowered gastric acidity, and was devoid of untoward side effects. Einsel[11] and his associates prescribed aluminum hydroxide one-half hour to one hour after each of six daily feedings and observed a lowering of the free acidity, which returned, however, to initial levels after the medication was discontinued. Woldman and Rowland[12] found colloidal aluminum hydroxide an efficient antacid, and Jones[13] reported that aluminum hydroxide completely relieved ulcer symptoms. Emery and Rutherford[14] administered colloidal aluminum hydroxide in a constant drip and also by mouth, and concluded that "it is possible to secure and maintain complete neutralization of gastric acidity if colloidal aluminum hydroxide is given in large enough amounts." Bennett and Gill[15] found that aluminum hydroxide possessed a neutralizing capacity as great as that of ordinary amounts of alkaline powders. Einsel *et al.*[11] and Bennett and Gill[15] studied the acid-base balance and found that aluminum hydroxide, because of its amphoteric nature, does not disturb the acid-base balance of the blood. A recent issue of the *Journal of the American Medical Association* contains a report by Kreider[16] stating that it was demonstrated that most of the effect of ordinary aluminum hydroxide in neutralizing hydrochloric acid was not by adsorption but was by production of aluminum chloride. This, in turn, being a soluble salt of heavy metal, has an irritating effect on the intestine, thus producing constipation. Havens[17] reports that the use of aluminum hydroxide alone may cause

intestinal obstruction.

I HAVE recently used a preparation known as gelusil, which contains a chemically inert aluminum hydroxide and which is, therefore, incapable of forming constipating aluminum chloride. To make up for this, and at the same time reduce gastric hyperacidity and maintain it in a reduced state for a longer period of time, it is combined with magnesium trisilicate, which does not have this undesirable constipating property.

A comparison of the acidity-reducing power of gelusil and ordinary aluminum hydroxide is shown in the following table. This shows the effect on the pH of twentieth normal hydrochloric acid having an initial pH of 1.4 and kept at 38 degrees centigrade (100.4 degrees F.).

	After adding gelusil	After adding ordinary alumina
1st hour	pH 4.50	pH 4.0
2nd hour	pH 5.30	pH 4.0
3rd hour	pH 5.30	pH 4.0
4th hour	pH 5.35	pH 4.0

In using ordinary alumina the physician can only partially avoid constipation by relying on the chance that the intestine will be sufficiently alkaline to permit the reabsorption of the chloride, and he must depend on the pancreatic and biliary apparatus functioning normally, in order to prevent phosphorus and calcium drainage.

These problems appear to be adequately prevented by the specially prepared aluminum hydroxide in gelusil that does not form soluble, astringent, constipating aluminum chloride with the gastric hydrochloric acid. The antacid molecules are provided with what might be likened to a "grid" that shields them from entering into chemical action with the chloride ions of the gastric juice. The pH of the gastric juice is effectively and quickly normalized, not neutralized nor alkalinized. This special alumina attracts the surplus hydrogen and chloride ions but there is no chemical interaction. The acid ions cling to the so-called "grid" where they are held firmly and carried out with the feces. Since all the alumina remains intact, there is no chemical reaction to produce aluminum chloride. Thus constipation is avoided.

The immediate effect upon taking gelusil is relief from gastric discomfort. The pylorus and other stomach muscles relax, permitting the emptying of the contents into the duodenum. The excess mucus is precipitated and peptic digestion is promptly terminated.

Also, the gelusil protects against the loss of calcium and phosphorus that usually results from alumina gel therapy. This protective action is attained by satisfying the affinity for these minerals in the process of manufacture.

In my experience, I have not found this substance toxic or constipating in any dose, nor does it cause gas formation.

CONCLUSIONS:—In my series of cases I found that the aluminum hydroxide gel and magnesium trisilicate combination found in gelusil is an efficient gastric antacid and entirely satisfactory in the treatment of gastric hyperacidity from any cause—"sour stomach"; in the protective treatment of peptic ulcer; in the symptomatic treatment of gastro-enteritis, certain types of food poisoning, and "sick stomach" with vomiting in pregnancy. This relief can be accomplished without the distressing sequel of constipation.

References

1. Crohn, B. B.: The Effect of Antacid Medication on Gastric Acidity and secretion. *Am. J. Med. Sci.*, 155.801, 1918.
2. Lockwood, B. C. and Chamberlin, H. G.: The Effect of Alkalies on Gastric Secretion and Motility as Measured by Fractional Gastric Analysis. *Arch. Int. Med.*, 32:74, 1923.
3. Boyd, T. E.: Effect of Alkalies on Secretion and Composition of Gastric Juice. *Am. J. Physiology*, 71:455, 1925.
4. Keefer, C. S. and Bloomfield, A. L.: Quantitative Study of Effect of $NaHCO_3$ on Gastric Function. *Bull. Johns Hopkins Hosp.*, 39:379, 1926.
5. Sippy, B. W.; Gastric and Duodenal Ulcer—Medical Cure by an Efficient Removal of Gastric Juice Corrosion. *J.A.M.A.*, 64:1625, 1915.
6. Palmer, W. L.: Fundamental Difficulties in the Treatment of Ulcer. *J.A.M.A.* 101:1604, 1933.
7. Wosika, P. H. and Emery, E. S.: The Effectiveness of the Sippy Regimen in Neutralizing the Gastric Juice of Patients if the Amount of Alkali is Not Varied. *Ann. Int. Med.*, 9:1070, 1936.
8. Foldes, E.: The Physiology of Gastric Secretion. *Klin. Woch.*, 3:1951, 1924.

9. Reid, C. G.: The Control of Gastric Hyperacidity by Magnesium Trisilicate. *Am. J. Dig. Dis.*, 6:267, 1939.
10. Crohn, B. B.: The Clinical Use of Colloidal Aluminum Hydroxide as a Gastric Antacid. *J. Lab. and Clin. Med.*, 14:610, 1929.
11. Einsel, I. H., Adams, W. L. and Meyers, V. C.: Aluminum Hydroxide in the Treatment of Peptic Ulcer. *Am. J. Dig. Dis. and Nutrit.*, 1:513, 1934.
12. Woldman, E. E. and Rowland, V. C.: A New Technique for the Continuous Control of Acidity in Peptic Ulcer by the Aluminum Hydroxide Drip. *Am. J. Dig. Dis. and Nutrit.*, 2:733, 1935.
13. Jones, C. R.: Colloidal Aluminum Hydroxide in Treatment of Peptic Ulcer. *Am. J. Dig. Dis. and Nutrit.*, 4:99, 1937.
14. Rutherford, R. B. and Emery, E. S., Jr.: The Clinical Effect of Colloidal Aluminum Hydroxide on Patients with Peptic Ulcer. *N. England J. Med.*, 220-407, 1939.
15. Bennett, T. I. and Gill, A. M.: Colloidal Aluminum Hydroxide in Treatment of Peptic Ulcer. *Lancet*, 1:500, 1939.
16. Kreider, Henry R., Jr.: Chemistry of Aluminum Hydroxide Suspensions. *J.A.M.A.*, 117:1354, 1941.
17. Havens, W. P.: Intestinal Obstruction Caused by Colloidal Aluminum Hydroxide. *J.A.M.A.* 113:1564, 1939.

12424 GRATIOT AVENUE.

ASSOCIATED PHYSICIANS OF LONG ISLAND

Announcement of June Meeting

The Spring meeting, outing and dinner of the Associated Physicians of Long Island will be held on Tuesday, June 16th at the Huntington Crescent Club, Huntington, L. I. There will be golf and tennis for those who wish to play. The scientific program begins at 3:00 P.M. as follows:

Rupture of the Uterus—Case Report, by Dr. Neil E. Falkenburg of Huntington.

Résumé of Fifteen Cases of Two Flap Cesarean Section by Dr. Jacob Dranitzke of Patchogue (representing Mather Memorial Hospital).

Urological Complications of Malignant Adnexal Disease by Dr. Morris R. Keen of Huntington and Dr. Benjamin L. Feuerstein of Bay Shore (representing Southside Hospital).

To be announced—By Dr. John B. Healy of Babylon (representing Southside Hospital).

Interesting Gallbladder Cases by Dr. George P. Bergmann of Mattituck (representing Eastern Long Island Hospital).

The program will begin at 3:00 and last until the business meeting which will be at 5:00 P.M. Dinner will be served at 6:30 at the Huntington Crescent Club. There will probably be a motion picture travelogue.

A more detailed program will follow by mail.

At a recent meeting of the Board of Directors of the Associated Physicians of Long Island the following committees were appointed by the President, Dr. Charles C. Murphy, for 1942: All Brooklyn, unless otherwise indicated.

SCIENTIFIC COMMITTEE

Chairman—John L. Sengstack, Huntington; Vice-Chairman—Seymour Clark, 235 East 19th St.; Harold K. Bell, 857 President Street; E. Jefferson Browder, 200 Hicks Street; Eugene Calvelli, 114 Pt. Washington Blvd., Pt. Washington; Frank B. Cross, 832 President Street; Chester L. Davidson, 8820 146th St., Jamaica; Frank N. Dealy, 8904 148th St., Jamaica; Edward R. Hildreth, 26 Ocean Avenue, Bay Shore; Morris R. Keen, Huntington; David L. MacDonnell, 15 Greeley Ave., Sayville; E. M. McCoy, Central Islip; A. W. Martin Marino, 80 Hanson Place; Harvey B. Matthews, 643 St. Marks Avenue; H. P. Mencken, 3640 Bowne Street, Flushing; C. Douglas Sawyer, 34 Prospect Park West; John N. Shell, 200 W. Merrick Road, Freeport; Einar A. Sunde, 627 Second Street; Paul H. Sullivan, The Wychwood, Great Neck; A. S. Warinner, 131 Fulton Avenue, Hempstead.

LEGAL COMMITTEE

Chairman—William E. Butler, 44 Court Street.

HISTORICAL COMMITTEE

Chairman—Otho C. Hudson, 131 Fulton Avenue, Hempstead; Vice-Chairman—Julius C. Felicetti, 579 Fulton Ave., Hempstead; Everett C. Jessup, Warner Ave., Roslyn; Howard T. Langworthy, 337 Washington Avenue; Harry McGrath, Bay Shore; Donald E. McKenna, 80 Hanson Place; William J. Calcolm, Jericho; Frederic G. Meynen, 9030 150th St., Jamaica; Frank Overton, Patchogue; Harold R. Robert, 439 Conklin Street, Farmingdale; William H. Ross, Brentwood; Frederick Schroeder, 290 Park Place; Fedor L. Senger, 144 Joralemon Street; Joseph S. Thomas, 143-50 Roosevelt Ave., Flushing; Wilbur C. Travis, Northport.

PUBLIC HEALTH COMMITTEE

Chairman—Arthur D. Jaques, Lynbrook; Vice-Chairman—Edwin P. Kolb, Holtsville; Robert F. Barber, 1257 Dean Street; Frank B. Cross, 832 President Street; William E. Gouin, Hughes St. and Park Pl., Bellmore; Ralph F. Harloe, 142 Joralemon Street; J. V. Hughes, 2 West Main Street, Bay Shore; Walter D. Ludlum, 1421 Cortelyou Road; Burdge P. MacLean, 33 Fairview Street, Huntington; Charles F. McCarty, 1313 Bedford Avenue; Stanley J. Makowski, 4 Landing Road, Glen Cove; G. E. Pauley, 9460 220th Street, Queens Village; Joseph C. Regan, 1298 Carroll Street; William H. Runcie, 89 S. Ocean Avenue, Freeport; Alfred E. Shipley, 850 St. Marks Ave.; Louis A. VanKleeck, Manhasset.

ENTERTAINMENT COMMITTEE

Chairman—Carl Hettesheimer, 17 Long Drive, Hempstead; Vice-Chairman—Edwin A. Griffin, 18 Prospect Park West; Charles A. Anderson, 32 8th Avenue; Albert F. R. Andresen, 88 6th Avenue; Archie M. Baker, Lindenhurst; Louis H. Bauer, Hempstead; Albert M. Bell, Sea Cliff; Coburn A. Campbell, Port Jefferson; William C. Carhart, Irish Lane, East Islip; Walter C. Freese, 52 Merrick Road, Baldwin; John B. Healy, Babylon; Wendell Hughes, West Hempstead; Gerald T. Lilly, 8824

—Concluded on page 218

CONTEMPORARY PROGRESS

PHYSICAL THERAPY

Light Therapy in Dermatology

A. C. CIPOLLARO *(Archives of Physical Therapy,* 23:133, March 1942) has found ultraviolet radiation both from natural and artificial sources of definite value in the treatment of many cutaneous diseases. Other forms of light therapy have been found of very limited if any, value in dermatology. Three types of ultraviolet lamps are employed by dermatologists —the hot quartz mercury arc lamp, the carbon arc lamp and the low pressure quartz mercury vapor lamp of the cold quartz type. The author is of the opinion that if ultraviolet rays are to be extensively used, more than one type of lamp should be employed. In most conditions in which ultraviolet ray treatment is of definite value, it should be combined with other local and systemic treatment. Among the conditions in which ultraviolet irradiation has proved a useful adjuvant to treatment are acne vulgaris, dermatitis herpetiformis, various types of eczema, erysipelas, recurrent furunculosis, vitiligo, pityriasis rosea, psoriasis, sycosis vulgaris, and tuberculodermas, and indolent ulcers and wounds. The author notes that ultraviolet radiation is of special value in erysipelas, in which it is both a safe and a successful method of treatment, especially in very young and in old patients; since sulfonamides are photosensitizers, these drugs and ultraviolet rays should not be employed simultaneously. In the treatment of psoriasis, exposure to ultraviolet rays is "probably the best single method." The author has found that the most practical way of treating extensive psoriasis is to expose the entire body to natural sunlight; this gives better results than the use of any artificial source of ultraviolet light. In the treatment of recurrent furunculosis, he also prefers exposure to sunlight. In most cases of tuberculous lesions of the skin, the ultraviolet rays are of definite value; this is especially true of the most common type of cutaneous tuberculosis, lupus vulgaris. In dermatology, the author concludes that there "are many disfiguring conditions that are definitely ameliorated by the exfoliating effects of ultraviolet rays;" and there are "some diseases that would progress indefinitely were it not for the beneficial effects of ultraviolet irradiation;" but it "must be emphasized that ultraviolet irradiation when improperly used can cause serious and irreparable damage."

COMMENT

The writer does well to emphasize the use of ultraviolet light in erysipelas. The effects are much more prompt than when serum or sulfanilamide is used. There is also much less risk to the patient even though massive doses, such as twenty-four times the erythema dose, are given.

Ultraviolet light never causes the formation of permanent scars but it is felt that continued over-exposure is distinctly harmful, especially constitutionally. It seems that such continued exposures may lead to the formation of skin malignancies, but that is along the same idea that multiple irritations start malignancies. However, a mild, subacute lupus may be activated by too much sunlight.

Ultraviolet energy has marked therapeutic values, but, like any other therapeutic agent, it can have deleterious effects in the hands of non-professional people. ***N.E.T.***

Heat in the Treatment of Nerve Lesions

P. BAUWENS *(British Journal of Physical Medicine,* 5:48, March 1942) notes that limbs paralyzed by damage to a large nerve trunk present "a poor thermodynamic system." The temperature of such a limb is low, but the application of heat is of value "only when the method employed elicits an acceleration of the blood flow," and not merely a local vasodilatation. One of the best methods of applying heat to such a limb is the hot—or rather warm—immersion bath; the water need not be at a temperature much

above that of the normal body; prolonged immersion is more important than high temperature; mechanical stimulation by means of sprays or whirlpool baths is also of value. This method can be used with safety even when "complete anesthesia" of the affected limb exists, as the temperature is never raised to a degree dangerous to the tissues. Hot air chambers designed to accommodate limbs are also an effective method of applying heat; the warmed air should be saturated in order to prevent excessive evaporation. The use of radiant heat generators is not advocated for the treatment of nerve lesions, because the normal responses to superficial heating are not induced when the nervous system is not intact. Diathermy, which involves the application of metallic electrodes to the skin, also has several disadvantages in the treatment of nerve lesions. The use of ultra high frequencies generated by coil electrodes provides a satisfactory form of heat treatment for nerve lesions; for application to the extremities, a continuous cable may be employed that can be coiled spirally around the limb. This method enables heat to reach the deeper structures without "steep temperature gradients." Treatments should be given twice daily, and between treatments the affected limb should be encased in sleeves or muffs made of heat insulating material and padded, to prevent heat loss. Not merely the affected or cold part of the limb should be treated, but as much as possible of the area above this level, in order to improve the circulation generally.

EDITORIAL SPONSORS

MALFORD W. THEWLIS.....*Medicine*
Wakefield, R. I.

THOMAS M. BRENNAN.....*Surgery*
Brooklyn, N. Y.

OLIVER L. STRINGFIELD.....*Pediatrics*
Stamford, Conn.

VICTOR COX PEDERSEN.....*Urology*
New York, N. Y.

HARVEY B. MATTHEWS
Brooklyn, N. Y. *Obstetrics-Gynecology*

L. CHESTER MCHENRY
Nose and Throat-Otology
Oklahoma City, Oklahoma.

NORMAN E. TITUS...*Physical Therapy*
New York, N. Y.

RALPH I. LLOYD.....*Ophthalmology*
Brooklyn, N. Y.

HAROLD R. MERWARTH.....*Neurology*
Brooklyn, N. Y.

FRED L. MOORE
Brooklyn, N. Y.
Public Health including Industrial Medicine and Social Hygiene

COMMENT

By far the best method, as well as the most comforting manner to apply heat in nerve lesions, is the whirlpool bath. In fact, during the last war the whirlpool bath was originated for just such cases. Captain Bardwell of the Army Medical Corps designed the ejector which sucks air into the stream of water that creates the whirlpool.

Due to the anesthesia that so frequently is present, the application of any other form of heat is dangerous. Inasmuch as it is impossible to know the dose of short wave diathermy when given, it is the most dangerous method. Plate diathermy ranks next. Either of these would cause much pain in the hyperesthesia cases.

Immersion baths will help but agitation of the water with air bubbles in the stream produces a mild, painless massage. **N.E.T.**

Artificial Fever Therapy

J. A. TRAUTMAN *(Archives of Physical Therapy,* 23 : 197, April 1942) reports 6,881 artificial fever treatments given to 1,200 patients from June 1, 1934 to June 1, 1941, at the United States Marine Hospital, New Orleans. The technique of fever therapy has been much improved in this period, especially in regard to the air conditions in the cabinet; at present the temperature in the cabinet ranges from 108 to 118° F., while the relative humidity is "near saturation." Fever therapy has been employed chiefly in the treatment of gonorrhea and syphilis; some cases of nonspecific infection have also been treated. In 5,428 of the treatments, the temperature level was from

105° to 107° F. A study of the complications in this series of treatments shows a marked reduction in serious complications during the last two and three quarters years. One death occurred in the early period of fever therapy; there have been no deaths in the last five years. The most serious complications noted during or after treatment were fall of blood pressure to 80 systolic or below, rapid pulse (over 160 per minute), restlessness with "episodes" of delirium, nausea and vomiting. Other less serious complications were mild restlessness, headache and weakness persisting a day or more after treatment. With a properly equipped physical therapy department operated by trained physicians and nurse-technicians, the author is convinced that fever therapy "can be given at present with relative safety and ease."

COMMENT

Such a comprehensive report on the use of fever therapy shows that it does not cause the risks that the patient must face with massive chemotherapy. Chemotherapy is dramatic and effective but so is fever therapy. However, the combination of mild fever and small doses of drugs of the sulfonamide group produces excellent results with even less risk of damage to the patient.

Nausea and vomiting can be combated by giving the patient a good, thorough colon irrigation before fever therapy. Sedative drugs, but not morphine, also given before treatment, will control the delirium to a large extent and, during the treatment, cooling the patient momentarily with some air at normal room temperature will frequently quiet a delirious patient. ***N.E.T.***

The X-Ray Treatment of Acute Peritonitis

J. F. KELLY and D. A. POWELL (*Radiology*, 38:299, March 1942) report the x-ray treatment of peritonitis, and their results with this method since 1934. They note the value of x-ray therapy in gas gangrene as shown by their own results and those reported by others and suggest that there is a "possible etiologic relationship between gas gangrene and acute spreading peritonitis of intestinal origin." In acute appendicitis, surgical removal is indicated; in cases where there is some infection of the adjacent peritoneum, x-ray is usually not indicated. If the patient is not seen until a walled-off abscess has formed, at least one x-ray treatment a day is given after the abscess is drained, as a prophylactic measure against the extension of the infection. In early acute spreading peritonitis in the serosanguineous stage, x-ray therapy is of the greatest value; in such cases treatment is given two or three times the first day, twice the second and third days, and once a day thereafter until the patient is "definitely out of danger." In cases of generalized peritonitis in the fibrinopurulant stage, x-ray therapy is indicated although the response is usually not so prompt as in the earlier stage; however, x-ray treatments are of value to combat the toxemia and shorten convalescence; two or three treatments a day are given until toxemia is controlled. When generalized peritonitis has reached the stage of adhesions and abscesses, x-ray therapy is of comparatively little value "unless the toxemia is still uncontrolled;" or if a secondary operation is necessary, two or three days' series of treatments aid in localizing the process and combating the toxemia. The x-ray technique employed in peritonitis "cannot be definitely fixed," as treatment must be individualized to so great an extent. The usual r units per dose vary from 50 to 75, but sometimes smaller and sometimes larger dosage is required; kilovoltage varies from 90 to 130 kv; filter, from 2 to 5 mm. aluminum; distance, 40 to 50 cm. Large doses should be avoided unless the condition is "critical;" x-ray treatments over the abdomen and pelvis should be given "with caution" in young girls and pregnant women. A review of 290 cases of appendiceal peritonitis treated at the Creighton Memorial Hospital, Omaha, from 1934 (when x-ray therapy of peritonitis was first employed) to 1940, shows that there were 49 cases of localized peritonitis without abscess formation; in this group all patients recovered. In 39 cases with localized abscess formation, there were 3 deaths from pneumonia; the other patients either recovered or developed generalized peritonitis and are classified in that group. There were 202

patients with generalized peritonitis with 100 deaths (49.5 per cent). In 109 cases treated by surgery and general measures only, there were 71 deaths, a mortality of 68.1 per cent; in 42 cases treated with sulfonamides in addition to surgery and general measures, there were 16 deaths, 38 per cent mortality; in 21 cases treated with a combination of sulfonamides and x-ray, general measures and surgery, there were 7 deaths, a mortality of 33.3 per cent; and in 30 cases treated with the x-rays in addition to general measures and surgery there were 6 deaths, a mortality of 20 per cent. Since 1938, the authors have not employed x-rays in cases in which the sulfonamides were used until the drug was discontinued. Recently the authors have found that sulfathiazole is not as "antagonistic" to the x-rays as the sulfonamides employed earlier. In all these cases the sulfonamide drug was given internally, not used locally. The authors are convinced, however, that sulfonamides should not be tried for a few days and x-ray therapy used secondarily; early x-ray treatment in peritonitis is essential for the best results.

COMMENT

When x-ray therapy was credited with affecting infections years ago, the whole idea received complete condemnation from the surgeons. Results such as shown in this and other recent papers on the "bactericidal" effect of x-ray therapy are rationally proving that the early condemnation was far too hasty. "The proof of the pudding," etc.

N.E.T.

✚

PUBLIC HEALTH, INDUSTRIAL MEDICINE AND SOCIAL HYGIENE

Epidemic Influenza; the 1940-41 Outbreak in St. Louis

S. E. SUTKIN, J. F. BREDECK and D. D. DOUGLASS *(American Journal of Public Health,* 32:374, April 1942) report a study of the epidemic of influenza in St. Louis, December 1940 to February 1941. In the cases of proven influenza, a filterable infectious agent, identified as human influenza virus type A, isolated during previous epidemics, was recovered from the throat washings by direct inoculation into mice and on the allantoic membrane of developing chick embryos without preliminary passage in ferrets. The characteristic clinical findings in these cases of epidemic influenza were abrupt onset, with fever, headache, generalized body aches, prostration, slight throat irritation and persistent dry cough. It is noted that the respiratory tract symptoms in these cases were much less marked than in cases of acute respiratory infections not due to the influenza virus, occurring during the same period. Another clinical feature of the influenza cases was a relatively low leukocyte count, certainly no leukocytosis in the early stage of the infection. At the height of the fever, the temperature in the cases of influenza varied from 100° to 105° F.; the duration of fever was three to four days; convalescence was prolonged, but there were few complications in this epidemic. Neutralization and complement fixation tests are of value in the diagnosis of epidemic influenza when correlated with the clinical findings, when the virus cannot be recovered. Both the neutralizing antibody titer and the complement-fixing titer increase in the convalescent sera as compared with the acute phase sera of patients with epidemic influenza. The authors state that the complement fixation test for epidemic influenza is "a simple specific serological procedure which does not require highly trained personnel or special equipment;" it is both practicable and accurate. The neutralization test is "a more complicated and delicate procedure." On the basis of their study in the St. Louis epidemic the

authors suggest "that public health laboratory workers throughout the country familiarize themselves with the complement fixation test for influenza in order to be prepared for future outbreaks."

COMMENT

In connection with the present efforts to provide an effective, active, immunizing agent against influenza, epidemiological studies and improvements in diagnostic procedure are of distinct value. ***F.L.M.***

Search for Carriers in an Outbreak of Acute Anterior Poliomyelitis in a Rural Community

G. Y. McCLURE and A. D. LANGMUIR (*American Journal of Hygiene,* 35: 285, March 1942) report a search for carriers, with special reference to presence of poliomyelitis virus in the stools, in an outbreak of poliomyelitis in a small rural community. There were 5 cases of typical anterior poliomyelitis, admitted to the hospital with flaccid paralysis of one or more limbs. The presence of the virus was demonstrated in the stools in 4 of these patients; suspicious symptoms and lesions were noted in three monkeys inoculated with a small specimen of stools from the fifth patient, but the presence of the virus was not conclusively proved. Stools were obtained from 27 contacts of these patients, and the presence of the virus was demonstrated in 20 of these contacts; mild gastrointestinal upsets or pain referred to the periphery of the body were of "fairly common occurrence" in those contacts who were proven carriers of the virus. Stools were also examined from 4 persons in the community who gave a history of having had poliomyelitis years previously, and also from 4 persons, members of one family, who had no contact with the patients with poliomyelitis. All these specimens were negative.

COMMENT

Further information is added to our knowledge concerning the mode of transmission of acute anterior poliomyelitis. While little of practical value is contributed by the search for temporary carriers or subclinical cases of the disease, the negative evidence with regard to chronic carrier states is of interest.

F.L.M.

Mercury Poisoning from the Use of Anti-Fouling Plastic Paint

L. J. GOLDWATER and CLARK P. JEFFERS (*Journal of Industrial Hygiene and Toxicology,* 24:21, Feb. 1942) report cases of mercury poisoning among men engaged in applying an anti-fouling plastic paint to ships in the Navy Yard, New York. This plastic paint is heated and applied by spraying; it is not in constant use at the Yard, but at certain times, men who spray the plastic paint may have to work long hours for several days. Each man assigned to work with this plastic paint has been given a charcoal respirator, as it was realized that an appreciable amount of mercury is present in the fumes from the paint; some of the men, especially those who worked around the heating kettles, have been careless about wearing these masks, not realizing that the fumes during heating of the paint might be more dangerous than the actual spray. After a period of intensive work with this paint, 3 men reported to the Dispensary with symptoms of nervousness, fatigue, anorexia, constipation and soreness of the gums; all were found to have tremors of the hands. Subsequently 17 men who had worked with the paint were examined; 8 had no symptoms; 5 complained of fatigue, 5 of hoarseness; constipation, anorexia and soreness of the gums occurred in 4 cases each. Abnormal physical findings were noted in 6 men; the most frequent was tremor of the hands, occurring in 5 men, the next most frequent, gingivitis, occurring in 4; one man showed marked edema of the face and eyelids. Examination of the urine showed occasional red cells in 5 of the 6; abnormal amounts of mercury were found in the urine in all 6 cases, and in 4 of these the values were "very high." The amounts of arsenic and lead in the urine were small, not in the range usually associated with poisoning by either of these metals. These findings indicate that the poisoning from this anti-fouling paint is due primarily to mercury. Recommendations for the safe handling of the paint include: An explanation of the hazard to all men coming in contact with

the paint; provision of respirators for these workers, and "vigorous steps" to enforce the use of the respirators; physical examination of all men assigned to work with plastic paint before commencing work, at intervals of not more than one week while working with the paint, and at the completion of each particular job; in such examinations, particular attention should be paid to the presence of tremor and gingivitis; removal of any man showing signs of mercurialism from work with the paint.

COMMENT

This study serves to emphasize the importance of being on guard for new industrial hazards, especially at this time, when not only is the whole tempo of industry in the country increased but also substitutes must be found for products whose potentialities are better known. ***F.L.M.***

Reduction of Industrial Absenteeism by Preseasonal Immunization Against Catarrhal Illness

M. R. BRADY (*American Journal of Medical Sciences,* 203:469, April 1942) reports the inoculation of 950 out of 1800 employees in a large chemical factory in England, with a mixed anti-influenza and common cold vaccine containing local strains. Cultures were taken from workers in the factory suffering from acute colds and from workers particularly susceptible to colds; strains of organisms from other sources were added to those thus obtained; all strains were carefully typed in preparing the vaccine. The 950 persons inoculated included those subject to occasional colds, those unusually susceptible to colds, and those who had acute respiratory infections when inoculations were begun. The latter were treated with autogenous vaccines. The dosage used for the persons particularly susceptible to colds was smaller than that for persons having only occasional colds; both groups were given six treatments. Inoculations were completed in January 1941; the records for January to March 1941 did not show a reduction in the number of colds reported by the inoculated group, but did show a definite reduction in the number of days lost from work, 34.1 per cent, as compared with the uninoculated group. The total absenteeism in the factory from catarrhal illness in 1941 also showed a substantial decrease as compared with that in 1940.

COMMENT

The extent to which the minor respiratory diseases contribute to total absenteeism due to illness among industrial workers is well known. This study seems to indicate that a significant reduction in time lost may be brought about by the methods described. The comment based on a comparison of 1941 experience with that of 1940 is not pertinent. ***F.L.M.***

Venereal Disease Control in St. Louis

F. G. GILLICK and J. C. WILLETT (*Southern Medical Journal,* 35:332, April 1942) report that the organization for venereal disease control in St. Louis consists of centralized administrative and follow-up offices with a diagnostic and a consultation service; treatment facilities are "decentralized" in six class A hospital clinics not under direct control or supervision of the health authorities. Certain minimum requirements for laboratories do ing serological tests for syphilis are en forced; the Kahn test has been adopted as the standard test. "The most significant function" of the venereal disease control service is the follow-up service for infectious cases of syphilis; contacts are traced by correspondence and by public health nurses. Most patients, it has been found, will give information in regard to contacts if they are assured that the information is regarded as strictly confidential. While cases are referred to the hospital clinics for treatment, as noted above, the venereal disease service takes charge of the follow-up of cases and of "case-holding." Particular attention is given to checking up cases of primary, secondary and early latent syphilis and preventing any lapse in treatment until the patient has received a minimum of 20 arsenical and 20 heavy metal treatments. Cases of late syphilis are followed up when "the case load" of early syphilis permits. Research in venereal disease is stimulated through the laboratory section of the St. Louis Health Division; as a result of this, the method of massive arsenical therapy for syphilis is being carried out at the St. Louis Isolation Hospital. From January, 1940

to 1941, 4,538 cases of syphilis were treated at the six cooperating clinics; an average of 52.4 treatments per person was given; since January 1940, 2,726 venereal disease contacts were found and examined; 19 per cent were found to have venereal disease; 1,014 detentions of prostitutes for treatment have been enforced.

COMMENT

All too frequently in the past neither the hospital clinic nor the private physician has made the best possible contribution to the program of venereal disease control, specially with regard to "contact tracing" and "case holding" measures. A great many clinics might be well advised to evaluate their methods in the light of the St. Louis experience.
F.L.M.

✚

OPHTHALMOLOGY

Corneal Penetration of Sulfanilamide and Some of Its Derivatives

H. CHINN and J. G. BELLOWS (*Archives of Ophthalmology,* 27:34, January 1942) report experiments on dogs and rabbits with the local application of ointments containing various sulfonamides and powered sulfanilamide to the cornea, and the determination of the concentration of the drug in the aqueous humor. It was found that when applied in ointment form, sulfanilamide "readily penetrated" the cornea in the rabbit; the permeability of the dog cornea was less, the amount of the drug in the aqueous humor being only about 20 per cent of that in the rabbit. The other sulfonamides tested—sulfapyridine, sulfathiazole and sulfadiazine—penetrated the cornea only to a slight degree, but to a greater extent in the rabbit than in the dog. When the powdered form of sulfanilamide was applied in the conjunctival sac, the concentration in the aqueous humor was higher than with application of the sulfanilamide ointment in the rabbit, but a similar difference was not observed in the dog. With the powdered sulfanilamide a slight staining reaction was noted in the cornea, and also chemosis in some experiments. From these investigations and from clinical and laboratory reports by other investigators, the authors conclude that in eye infections in which the sulfonamides are indicated, combined local and oral administration of the drug "would be the most effective procedure." In minor external ocular infections the local application alone might be effective; sulfanilamide would be especially effective for corneal infections, the other sulfanilamides less effective since the corneal penetration of the latter is "far less" than that of sulfanilamide. In "virulent and progressive" external ocular infections and especially in intraocular infections, "most reliance should still be placed on oral administration" of the sulfonamides.

COMMENT

The effort to determine the effectiveness of the sulfonamide group when used locally in the eye both clinically and by animal experiments is an extremely important matter. The clinical side is developing steadily but the laboratory can supply much valuable information.
R.I.L.

Carbaminoylcholine Chloride in the Treatment of Glaucoma Simplex

C. S. O'BRIEN and K. C. SWAN (*Archives of Ophthalmology,* 24:253, February 1942) report the use of carbaminoylcholine chloride in the treatment of glaucoma. This drug is a synthetic choline derivative, chemically similar to acetylcholine, but having a more prolonged action; it is "a powerful peripheral vasodilator." Experiments on rabbits' eyes and on the eye of human volunteers showed that the normal cornea is relatively impermeable to carbaminoylcholine chloride in aqueous solution, but that the drug is well absorbed if dissolved in a vehicle containing zephiran, which reduces surface tension. Massage of the cornea through the eyelids further aids absorption. In experiments on normal eyes, it was found that a 1.5 per cent solution with zephiran has a more

pronounced effect than a 2 per cent pilocarpine solution as a miotic and in producing spasm of accommodation; the effect also is more prolonged than with pilocarpine. In 14 eyes with chronic noncongestive glaucoma in which pilocarpine was effective in controlling intraocular tension, it was found that the tension could be maintained at a lower level and with fewer instillations with carbaminoylcholine chloride-zephiran solution than with pilocarpine. In 34 eyes with advanced glaucoma simplex, in which 2 per cent pilocarpine solution was not effective in lowering intraocular tension, a 1.5 per cent solution of carbaminoylcholine in 0.03 per cent zephiran instilled two or three times daily maintained the tension below 25 mm. mercury in all cases, without further visual field loss for periods up to twenty months. Six patients who had morning headaches and "aching in the eyes" were relieved of these symptoms. The drug was not effective, however, in controlling intraocular tension in 4 patients with chronic noncongestive glaucoma. With carbaminoylcholine chloride, as with pilocarpine, a regular schedule of administration must be maintained in the control of glaucoma; but as carbaminoylcholine chloride has a more prolonged action, the intraocular tension is less apt to rise if one or two instillations are missed. In the cases treated there has been no indication that carbaminoylcholine chloride loses its efficiency after prolonged use, but further studies are necessary to determine this definitely; in some cases it was possible to reduce the dose after months of treatment. No systemic reactions were observed, and local irritation was rare, even with prolonged use of carbaminoylcholine chloride.

COMMENT

For years we have depended upon pilocarpine and eserine in the treatment of glaucoma simplex. This disease is becoming more important because it is detected at an earlier stage than formerly. Several new drugs have been used to replace these two remedies but none has stood the test of time. With our modern university medical schools entering upon the question, a decision as to the merits of the newer drugs and the technique of using them will soon be given. R.I.L.

Cyclodiathermy; an Operation for the Treatment of Glaucoma

C. H. ALBAUGH and E. B. DUNPHY (*Archives of Ophthalmology,* 24:543, March 1942) describe a new diathermy operation for glaucoma. Two techniques are employed, designated as "nonperforating" and "perforating." Local anesthesia is obtained by the instillation of 4 per cent cocaine into the eye, and the retrobulbar injection of 1 cc. of 2 per cent procaine with epinephrine 1/1000. The addition of epinephrine to the retrobulbar anesthetic is important to prevent rise of tension during and after operation. The conjunctiva is incised and the sclera exposed to within 2 mm. of the limbus; the operation is done on the lower half of the eye. For the nonpenetrating operation, a flat electrode (Weve type) is applied firmly against the sclera, a row of applications being made adjacent to one another at 4 to 5 mm. from the limbus. A slight superficial searing of the sclera is "a good criterion for the amount of current to be used." It is impossible to state the dosage exactly in milliamperes, "because of the vast variation in diathermy apparatus." With the Walker diathermy machine the authors use "the setting of 35 on the dial," and apply the current for eight to ten seconds for each application. For the penetrating type of operation a double row of Walker points is formed, 3 and 5 mm. respectively from the limbus and at intervals of about 1 mm. The authors have used this operation in hemorrhagic glaucoma, primary and secondary glaucoma and buphthalmos. They consider that it is especially indicated in hemorrhagic glaucoma, for which they prefer the nonperforating type of operation; not less than half the globe should be treated. In most cases of hemorrhagic glaucoma, the intra-ocular pressure falls gradually over a period of days or weeks after cyclodiathermy; it may remain "slightly elevated" indefinitely but the patient is relieved of symptoms. Cyclodiathermy can also be used to advantage in other forms of glaucoma when other medical and surgical treatment has failed, or when opening the globe with sudden re-

duction in intraocular pressure is to be avoided. With the nonperforating cyclodiathermy such complications as hemorrhage, secondary infection and sympathetic ophthalmia, that result from opening the globe, "are practically eliminated." A study of eyes sectioned some time after the operation shows that there is "no definite destruction of the ciliary body," but that epithelial elements do not regenerate completely and therefore "the membrane wall is broken down."

COMMENT

The operative treatment of detachment of the retina has already produced remarkable results. The percentage of recovery before the Gonin technique was zero. The last word in this form of treatment is far off, but reports of the character of this before us now are promising of even better results than those we are getting. ***R.I.L.***

A Study of the Aqueous Humor

RODMAN IRVINE and associates at the University of Southern California School of Medicine (*American Journal of Ophthalmology,* 25:150, Feb. 1942) report a study of the aqueous humor aspirated from the eyes of 44 patients with intra-ocular disease, and from the eyes of 12 rabbits with experimentally induced sclerokeratitis. Final conclusions cannot be drawn from the limited data, but the following findings are of interest. The sugar content of the aqueous humor varied primarily with the blood sugar, not with the pathological process in the eye, although it tended to be lower with acute inflammation. The ratio of the aqueous chloride to serum chloride averaged 1:21, which, it is noted, approximates that for cerebrospinal fluid chloride to serum chloride; this was not altered in glaucoma. The cell count of the aqueous humor depended primarily on the acuteness of the inflammatory process; a high percentage of polymorphonuclears was associated as a rule with a high protein content; this finding was characteristic of inflammation of the anterior uveal tract. In cases of separated retina, "quiet" iritis and uveitis with glaucoma secondary to hypermature cataract, the aqueous humor showed a high protein content but relatively few cells, indicating that the excess protein was not of inflammatory origin. Increase in protein content, if of long standing, was associated with synechiae; in cases of posterior-segment uveitis and sclerokeratitis in which there is no increase in aqueous protein, synechiae do not form. In cases of separated retina of long standing, aspiration of the aqueous results in drawing preretinal and subretinal fluid into the anterior chamber, thus preventing its collapse; this finding may be of importance in making a diagnosis of old retinal detachment if the posterior segment is obscured.

COMMENT

It has long been a mystery why synechia should develop in eyes free from infection. Thus a patient with an eye blind from angiomatosis retinae develops adhesions between the iris and the cataractous lens. Pathologists have told us that any case with an old retinal detachment will develop these adhesions but Dr. Irvine's work is much more informing than the mere statement quoted. This is coming very close to the cause of glaucoma, which is so very evidently in many cases secondary but, in others, apparently an independent disease. ***R.I.L.***

Alterations in the Capsular Epithelium in Immature Cataracts

C. A. CLAPP (*American Journal of Ophthalmology,* 25:437, April 1942) reports a study of the capsular epithelium in 70 cases of immature cataract that were removed "in capsule" at the Wilmer Institute of Johns Hopkins Hospital. In 3 cases in which the eye had been removed because of melanoma or glaucoma, a study of the capsular epithelium showed it to be intact and the cell nuclei normal. In the cases of immature cataract there was atrophy of the capsular epithelial cells in all cases, varying from partial atrophy to almost complete destruction of the epithelium; in a few cases proliferative changes were noted; in others a migration of the cell nuclei to the deep layers of the cortex. The findings in these cases, in the author's opinion, indicate that "alterations in, and death of, the capsular epithelium would seem to be a cause rather than a result of the lens changes."

COMMENT

Cataract has been considered to be due to the effect of age upon the vitality of the cells. More recently the effect of age upon the elastic tissue of the body has come to notice. The elastic wall of the blood vessels has a marked influence upon the well-being of the individual because without the "compression chamber effect" of the elastic artery wall, the blood is not propelled steadily. The ultimate arterial vessels no longer deliver a steady supply of blood and, especially in sleep, the nourishment of vital organs suffers. In the eye, the lamina elastica of the choroid is now believed to be a governor controlling the transfer of nourishment from the choriocapillaris to the outer retinal layers. This is an elastic tissue structure and it is possible to show definite changes in it not only in senility but earlier and in association with such retinal conditions as angioid stripes and hereditary macular degeneration. If we agree that the capsular epithelium is the immediate cause of cataract, are we nearer to the secret why some have cataracts and others do not? ***R.I.L.***

✚

NEUROLOGY

Western Variety of Equine Encephalitis in Man

A. B. BAKER and H. H. NORAN (*Archives of Neurology,* 47:565, April 1942) note that equine encephalitis in man has been prevalent in the mid-western states for some years. During 1941 a severe epidemic developed in Minnesota and North Dakota; 1700 cases with 150 deaths have been reported in these two states. This epidemic was shown to be caused by the western strain of encephalitis by isolation of the virus from the brain in fatal cases, and by the demonstration of neutralizing bodies in the serum of convalescents. The authors report 10 cases observed during this epidemic; 5 of these patients died; the virus was isolated from the brain in only one of these fatal cases, but specific neutralizing antibodies were found in the serum in another case. The pathological lesions in all the fatal cases were closely similar, and also similar to those in other cases in which the virus was isolated from the brain. The clinical features in all these cases were also similar. The disease usually affected adults, the youngest patient being eighteen years of age. The onset was usually sudden with malaise, mild headaches and often vertigo, sometimes nausea and vomiting; there was fever with or without chills. Later the headache became more severe and generalized, often radiating to the occipital region or down the back of the neck. The patient became drowsy and lethargic, but usually responded "to sufficiently intense stimuli." In the patients who recovered, the symptoms persisted about ten days and then cleared up fairly rapidly and completely. In the more severe cases, the temperature rose to high levels (105° to 106° F.), the headaches were "most intense;" the patient became stuporous, sometimes showing periods of extreme restlessness; in the fatal cases death often occurred from four to seven days after onset. The "only constant physical sign" was mild stiffness of the neck with positive Kernig; there was often generalized muscular weakness which sometimes persisted after all other symptoms disappeared. The spinal fluid was usually normal except for a moderately increased cell count; there was no increase in pressure. The clinical characteristics of western encephalitis differ very decidedly from those of the eastern type. The latter occurs primarily in a younger age group, runs a more fulminating course with a higher mortality, and is characterized by signs of focal damage to the brain, diplopia, increased spinal fluid pressure and severe residuals. The pathological lesions in western equine encephalitis are also characteristic; they are scattered throughout the nervous system, but the region of the basal nuclei is most seriously involved. The "inflammatory elements" of the lesion consist of polymorphonuclears and mononuclears; the polymorphonuclears form local, diffuse and perivascular infiltrations; the mononu-

clears form perivascular infiltrations. Scattered areas of demyelinization are usually present; such areas may be extensive and "overshadow" the inflammatory lesions. Hemorrhages vary in frequency from case to case; they may be slight or even entirely absent, or there may be gross petechiae or subarachnoid bleeding, sometimes even bloody spinal fluid. Meningeal reaction is minimal, in contrast to the eastern type of equine encephalitis, which is characterized by severe meningitis.

Intraspinal Meningiomas

M. H. BROWN *(Archives of Neurology and Psychiatry,* 47:271, Feb. 1942) presents a study of 130 intraspinal meningiomas; from this study and a review of the literature, he concludes that intraspinal meningiomas are of neural crest origin, and the mesoblastic structures "are a result of dural attachment." On the basis of the histological findings, the tumors in the author's series are classified into eight types. The most frequent type (56 per cent of the series) is the meningothelial tumor, which, the author notes, often bears no resemblance to "the classic whorled, calcific tumor that is described commonly;" the characteristic cells of this type are "morphologically identical" with the superficial lining cell of the arachnoid; the cells are arranged in small islands, sheets, whorls or alveoli; when growing in sheets or in the center of a whorl, the cells become rounder and appear "plump." The second most common type (21 per cent) is the fibroblastic; the cells in these tumors are more fusiform than the meningothelial cells, at times spindle shaped; they are arranged in bundles, streams and whorls; the predominant cells in this type are derived from the arachnoid stroma. The other types, occurring less frequently, are: The psammomatous type, characterized by the formation of laminated calcareous concretions; the osteoblastic type, with wide zones of mature bone formation, numerous psammomas, and sometimes small areas of osteoid tissue and hyaline cartilage; the lipomatous type, with much adipose tissue; the melanomatous type, represented by only one case; the malignant type with large vesicular cells, epithelioid cells "and at times giant cells," and numerous mitoses. There were six cases of malignant tumors in the author's series. Clinically the average duration of symptoms before the patient came to operation was definitely less in this type than in any of the other types. All types of the intraspinal meningiomas were located most frequently in the thoraic segments, 78 per cent. The chief presenting symptom (at the time of admission to the hospital) in most of these cases was a varying degree of motor weakness of the arms and legs; 106 patients, or more than 80 per cent, were admitted to the hospital "with considerable motor deficit;" complete paralysis of either upper or lower extremities was much less frequent. Paresthesias (prickling, burning and stinging sensations) were important in 52 patients, and in many instances had been noted before the onset of motor weakness. Root pain occurred "at some time or other" in practically every case, but was the chief symptom on admission in only 51 cases. The preoperative duration of symptoms in this series averaged somewhat less than in intraspinal neurofibromas; the average age of the patients was about ten years more than in neurofibromas. About 45 per cent of intraspinal neurofibromas produce bony erosion that is roentgenologically demonstrable; while only 10 per cent of meningiomas produce such lesions. Meningiomas also rarely produce spinal block. These characteristics are important in differentiating meningiomas from neurofibromas in making the preoperative diagnosis, although in some instances only a diagnosis of "extramedullary, extraspinal tumor" is possible.

The Treatment of Certain Muscular Atrophies with Vitamin E

H. R. VIETS and associates at the Massachusetts General Hospital *(American Journal of Medical Sciences,* 203:558, April 1942) report the use of vitamin E in the form of alphatocopherol acetate in

—Continued on page 218

Medical BOOK NEWS

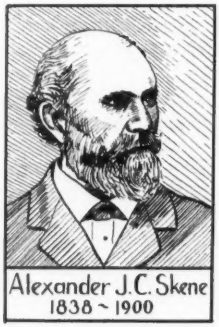
Edited by
ALFRED E. SHIPLEY, M.D., Dr. P.H.
All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.

Metabolic Disorders

Diseases of Metabolism. Detailed Methods of Diagnosis and Treatment. A Text for the Practitioner. Edited by Garfield G. Duncan, M.D. Philadelphia, W. B. Saunders Company, [c. 1942]. 985 pages, illustrated. 4to. Cloth, $12.00.

THIS monumental work is in fact a symposium covering the entire field of metabolism in a most systematic manner. Each of its twenty-six chapters is a monograph by a specialist in his respective field. For example, carbohydrate metabolism is covered by C. N. H. Long, the Sterling Professor of Physiological Chemistry at Yale University. Mineral metabolism is ably written by Abraham Cantarow of Jefferson Medical College. The chapter on protein metabolism is a very complete treatise on the physiological chemistry of the proteins. It includes detailed accounts of the known metabolism even of the individual amino acids. To John P. Peters has been relegated the chapter on water balance. Frank A. Evans covers obesity and Garfield Duncan, Diabetes Mellitus. The vitamins and avitaminoses are well covered as are such subjects as gout, diabetes insipidus, melituria, Xanthomatoses. This book will stand as one of the most serviceable not only for the general practitioner but for the specialist in the field of metabolism. In most instances it will adequately cover the needs of a reference work. At the same time it will be found not too involved as to discourage the casual seeker of metabolic data. Its nine hundred and some pages are fairly encyclopedic in scope.

GEORGE E. ANDERSON



Classical Quotations

● Upon each side, near the floor of the female urethra, there are two tubules large enough to admit a No. 1 probe of the French scale. They extend from the meatus urinarius upward, from three eighths to three quarters of an inch . . . the tubules run parallel with the long axis of the urethra. They are located beneath the mucous membrane in the muscular walls of the urethra. . . . The mouths of these tubules are found upon the free surface of the mucous membrane of the urethra, within the labia of the meatus urinarius. . . . It is only when their pathology is understood that their real importance becomes apparent.

Alexander J. C. Skene
Diseases of Women, pp. 644-5-6, third edition (1898).

Walshe's Neurology

Diseases of the Nervous System Described for Practitioners and Students. By F. M. R. Walshe, M.D. Second edition. Baltimore, Williams & Wilkins Company, [c. 1941]. 325 pages, illustrated. 8vo. Cloth, $4.50.

IN the present period of national emergency crystalized by events subsequent to Pearl Harbor, effective short-cuts are desirable in all fields. Physicians are no exception to this trend.

This textbook provides just such a short cut to diseases of the nervous system. It is a second edition, carefully revised to bring it up to date and to clarify the more obscure passages in the first edition. It is written to appeal to the immediate needs of the student and practitioner. The author has aimed deliberately for conciseness and brevity without sacrificing accuracy of description. In the opinion of the reviewer it fulfills its goal of a practical guide. In this book, to quote the author, one "need not look for lists or descriptions of the host of eponymous signs and syndromes, nor for the plague of polysyllabic words of classical derivation in too common use to describe disorders of function and pathological changes that can be discussed in plain English."

The material is presented in two parts; in the first part there is a general statement of the principles of neurological diagnosis with summary descriptions of characteristic

symptom complexes, and in the second are given the common nervous diseases.

The beauty of the book is that it represents the personal experience and opinions of the author, who is widely recognized for his practical approach to diseases of the nervous system. It is recommended.

HAROLD R. MERWARTH

Cosmetology

The Principles and Practice of Beauty Culture. By Florence E. Wall, A. M. New York, Keystone Publications, [c. 1941]. 708 pages, illustrated. 8vo. Cloth, $6.00.

IT is quite amazing, the mount of valuable information concerning the subject of Beauty Culture which the author has gathered together in one well-printed and handsomely illustrated volume for the benefit of the student and practitioner of art so close to the heart of the present day female, and so necessary for her welfare and happiness.

For years the author has been a teacher in the School of Education in New York University, lecturing on Cosmetology, a course of study seriously important to those desiring to practice their profession scientifically and ethically.

Starting with a chapter on the history of the art as practiced by the early Egyptians, Miss Wall takes the student through some twenty intensely interesting and informative subjects including physiology and hygiene, bacteriology and sanitation, the anatomy of the skin and its appendages, the rudiments of cosmetic dermatology, physical therapy and massage, the care of the hair and scalp, hair dressing, hair waving, dyeing, shop management and advertising and selling; in fact, the author has placed in the hands of her readers a complete treatise, a truly encyclopedic reference handbook of practice and procedure.

NATHAN THOMAS BEERS

Bacteriology Popularized

The Microbe's Challenge. By Frederick Eberson, M.D. Lancaster, The Jaques Cattell Press, [c. 1941]. 354 pages. 4to. Cloth, $3.50.

THIS work is a popular book in the best sense of the word. It may even be said it is unique. The most modern and complicated problems of bacteriology, such as bacterial variation, antigenic structure, the nature of viruses, cancer research, bacteriophages, field bacteriology, and epidemiology are discussed in a highly competent manner. Yet all this is done in a very understanding, almost conversational tone. A description of the personalities of outstanding scientists and the difficulties they encountered in their research work makes fascinating reading and gives the work a literary touch. The subject of the book may be beyond the layman not familiar with scientific work at all. But whoever has some knowledge of the natural sciences will greatly appreciate the easy manner in which he becomes acquainted with the achievements of modern bacteriology. Even the bacteriologist himself will be highly interested in the facts and ideas presented by the author.

U. FRIEDEMANN

Nutrition Tables

Food and Beverage Analyses. By Milton A. Bridges, M.D. and Marjorie R. Mattice, A. B. Second edition. Philadelphia, Lea & Febiger, [c. 1942]. 344 pages. 8vo. Cloth, $4.00.

THIS is the second edition, the first having been printed in 1935. Most of the material has been rearranged. The book contains about 30 pages of explanatory notes which are to the point. The rest of it consists of tables of food values and beverage analyses. At the end of the book is a special chapter on vitamins with descriptions and tables. There is also a special chapter on alcoholic beverages, followed by an extensive bibliography of food analyses and general nutrition. This second edition is highly recommended as a reference of tables and figures for all those employing nutrition in their practice.

MORRIS ANT

How to Conquer Shyness

Why be Shy? How to Banish Self-Consciousness and Develop Confidence. By Louis E. Bisch, M.D. New York, Simon and Schuster, [c. 1941]. 264 pages, 8vo. Cloth, $3.00.

FROM a psychiatric standpoint books of this kind are rarely worth-while. As a rule they contain platitudes and generalities which fill the pages but do not help the reader solve his emotional difficulties.

However, the author of this book has tried to avoid many of the pitfalls found in other books of a similar nature. He has attacked the problem with an air of confidence which is imparted to the reader.

A great deal of good common sense is intermingled with sound psychiatric advice. Although the author makes frequent use of freudian psychology he also gives practical suggestions which are invaluable. For instance, he gives the names and addresses of various vocational guidance bureaus for those who desire to ascertain their fitness for a particular occupation.

The author writes with considerable glibness and assurance. Consequently, the material lends itself readily to rapid reading. Dr. Bisch purposely attempts to make the reader feel that it is his personal problem which is being discussed. Undoubtedly, therefore, if the maladjustment is not too severe the reader may benefit from reading the book.

JOSEPH L. ABRAMSON

Protoplasmic Activity

Unresting Cells. By R. W. Gerard, New York, Harper & Brothers, [c. 1940]. 439 pages, illustrated. 8vo. Cloth, $3.00.

THIS book presents an interesting and painless method of gaining an insight into present day concepts of protoplasmic chemistry and structure, enzymatic action, cellular metabolism (Molecular traffic!), energy, behavior, growth, reproduction, and ageing.

Dr. Gerard's gift of analogy makes for easy understanding without compromising scientific soundness. Practitioners and medical students alike should find several intriguing hours in this book.

GEORGE H. PAFF

Oral Surgical Lesions

Operative Oral Surgery. By Leo Winter, D.D.S., M.D. St. Louis, C. V. Mosby Company, [c. 1941]. 877 pages, illustrated. 4to. Cloth, $10.00.

WE can definitely say that this book is for the general practitioner who is interested in oral surgical lesions. Differential diagnosis of swellings of the face and neck, blood dyscrasias and their oral manifestations will be found most complete in description and treatment. Dr. Winter describes only those methods from his own experiences which have proved the best and have stood the test of time from a clinical viewpoint. All conditions which the practitioner is most likely to meet in his office are very carefully and thoroughly considered.

The general surgeon and the one who is doing his share of plastic surgery, will find many chapters to serve him well. The chapter on Fractures of the Mandible and Maxillae is really a book within a book. Besides covering fractures of the mandible and maxillae Dr. Winter describes the treatment and management for the following fractures; of the Zygoma, of the Symphysis, of the Coronoid Processes, and of the Ascending Ramus. The treatment of non-union and bone graft are described and illustrated. The very many drawings, photographs and x-rays will be found most practical.

J. L. FELSENFELD

Basic Neurologic Relations

The Autonomic Nervous System. Anatomy, Physiology, and Surgical Application. By James C. White, M. D. and Reginald H. Smithwick, M. D. Second edition. New York, Macmillan Company, [c. 1941]. 469 pages, illustrated. 8vo. Cloth, $6.75.

THIS, the second edition of a work which first appeared in 1935, deals in a comprehensive manner with present-day concepts of the relations between the autonomic nervous system and the chemico-hormonal and neural processes concerned in the economy of the organism-at-large. In Part I the "pure science" aspects of the vegetative neural functions are admirably set forth by authors whose own original contributions to this as well as to surgical fields of inquiry amply qualify them for the important task of sifting the chaff from the wheat. The section dealing with those syndromes in which vegetative nervous dysfunctions are conspicuous features of the total clinical constellation (Part II) is thoroughgoing. The use of pharmacologic agents and physical and surgical measures is logically woven into the descriptive clinical presentation. The final section of the book (Part III) is devoted to the delineation and evaluation of operative surgical procedures and to the crucial technical considerations in their application. In the re-

viewer's opinion, the present volume is without a serious competitor and as such deserves a place of honor in the library of all those interested in physiology, psychology, neurology, pharmacology, endocrinology, internal medicine and surgery.

RUSSELL MEYERS

Sollman's Pharmacology Up-to-Date

A Manual of Pharmacology and Its Applications to Therapeutics and Toxicology. By Torald Sollmann, M. D. Sixth edition. Philadelphia, W. B. Saunders Company, [c. 1942]. 1298 pages. 4to. Cloth, $8.75.

THE sixth edition of this standard work follows the form of its predecessors, all the various actions of a drug being described under its heading. Smaller type is used for special data and citation of authors. It has an added bibliography of about 100 pages.

Advances in such fields as the sulfonamides, anesthetics and hypnotics, convulsants and anticonvulsants, synthetic autonomic agents and vitamins have made rewriting necessary. There is some omission and condensaiton of older matter to avoid much increase in the size of the book.

Here one may find a thorough discussion of all topics in this field.

W. E. MCCOLLOM

NEW

NEPHRITIS *Publ. March 1942*

by Leopold Lichtwitz, M. D. Chief of the Medical Division of the Montefiore Hospital; Clinical Professor of Medicine, Columbia University, N. Y.

344 pages, 14 chapters, 120 illustrations and tables, bibliography, index. $5.50

Diagnosis, Treatment and Prognosis

"This book explains a method of analyzing renal functions and urinary excretory capacity in a simple manner. The method yields full information as to diagnosis as well as prognosis . . . it also explains how to prescribe an individually adequate diet . . . "

Journal of the Association of American Medical Colleges

Grune & Stratton, Inc.
443 Fourth Avenue, New York City.

Gentlemen: Please send Lichtwitz NEPHRITIS ($5.50).

☐ Send on approval. ☐ Check enclosed.
☐ Send C.O.D.

Name .....M.D.

Address .....

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

Endocrinology. Clinical Application and Treatment. By August A. Werner, M.D. Second edition. Philadelphia, Lea & Febiger, [c. 1942]. 924 pages, illustrated. 8vo. Cloth, $10.00.

Vaginal Hysterectomy. By James W. Kennedy, M.D. and Archibald D. Campbell, M.D. Philadelphia, F. A. Davis Company, [c. 1942]. 495 pages, illustrated. 4to. Cloth, $10.00.

The Bond Between Us (The Third Component). By Frederic Loomis, M.D. New York, Alfred A. Knopf, [c. 1942]. 267 pages. 12mo. Cloth, $2.50

Spencer Brade, M. D. By Frank G. Slaughter. Garden City, Doubleday, Doran and Company, [c. 1942]. 375 pages. 8vo. Cloth, $2.50.

The Proceedings of the Charaka Club. Volume X. Baltimore, Williams & Wilkins Company, [c. 1941]. 260 pages, illustrated. 8vo. Cloth, $5.00.

Hughes' Practice of Medicine. Sixteenth Edition revised and edited by Burgess Gordon, M.D. Philadelphia, The Blakiston Company, [c. 1942]. 791 pages. 8vo. Cloth, $5.75.

Electrotherapy and Light Therapy with the Essentials of Hydrotherapy and Mechanotherapy. By Richard Kovács, M.D. Fourth edition. Philadelphia, Lea & Febiger, [c. 1942]. 735 pages, illustrated. 8vo. Cloth, $8.00.

Athletic Injuries. Prevention, Diagnosis and Treatment. By Augustus Thorndike, M.D. Second edition. Philadelphia, Lea & Febiger, [c. 1942]. 216 pages, illustrated. 8vo. Cloth, $3.00.

Textbook of Clinical Parasitology Including Laboratory Identification and Technic. By David L. Belding, M.D. New York, D. Appleton-Century Company, [c. 1942]. 888 pages, illustrated. 4to. Cloth, $8.50.

Standard Radiographic Positions. By Nancy Davies, M. S. R. and Ursel Isenburg, M. S. R. Baltimore, Williams & Wilkins Company, [c. 1941]. 136 pages, illustrated. 8vo. Cloth, $2.00.

Ambassadors in White. The Story of American Tropical Medicine. By Charles M. Wilson. New York, Henry Holt and Company, [c. 1942]. 372 pages, illustrated. 8vo. Cloth, $3.50.

Textbook of Medical Treatment. By Various Authors. Edited by D. M. Dunlop, M.D., L. S. P. Davidson, M.D. and J. W. McNee, M.D. Second edition. Baltimore, Williams & Wilkins Company, [c. 1942]. 1179 pages. 8vo. Cloth, $8.00.

Directory of Medical Specialists Certified by American Boards, 1942. Published for the Advisory Board for Medical Specialties. New York, Columbia University Press, [c. 1942]. 2495 pages. 8vo. Cloth, $7.00.

Doctor Bard of Hyde Park. The Famous Physician of Revolutionary Times, the Man Who Saved Washington's life. By John B. Langstaff. New York. E. P. Dutton and Co., [c. 1942]. 365 pages, illustrated. 8vo. Cloth, $3.75.

—*Concluded from page 213*

a few patients whose chief symptoms were atrophy and fibrillation of muscle. In 11 of these patients, the clinical diagnosis was amyotrophic lateral sclerosis; in 6 progressive muscular atrophy and in 4 peroneal muscular atrophy. The dosage was gradually increased from 20 to 250 mg. daily by mouth, and in some cases an additional 50 mg. were also given three times a week by intramuscular injection. Most patients also were given vitamin B_1 complex in various doses. A few of these patients reported subjective improvement, but none were permanently benefited, and some died during treatment. In the study of these patients electromyograms were made; they were found to be "a convenient method of recording the number of fibrillations in an affected muscle," but they did not prove of value in the differential diagnosis of the muscular atrophies. A new method of determining the vitamin E content in the blood recently described by Wechsler and his associates the authors consider will be of value in determining what patients are deficient in this vitamin, which would indicate a trial of vitamin E therapy.

Variations in Electroencephalogram Associated with Electric Shock Therapy of Patients with Mental Disorders

B. L. PACELLA and associates at the New York State Psychiatric Institute and Hospital (*Archives of Neurology and Psychiatry*, 47:367, March 1942) report encephalographic studies on 61 patients receiving electric shock therapy. In patients subjected to treatment to produce minor or "petit mal" seizures, the encephalograms showed only slight and temporary changes either after a single treatment or after repeated "petit mal" treatments. These electroencephalographic changes did not resemble those described by other investigators as characteristic of epilepsy. In patients subjected to therapy that produced generalized seizures, the electroencephalographic changes were more marked and resembled those observed after convulsions produced by other means or after spontaneous seizures in epilepsy. The more numerous the treatments, the more pronounced the electroencephalographic changes became and the longer they persisted. As a rule the electroencephalographic changes tend to disappear when the shock therapy is discontinued, but in some patients in whom a large series of convulsions was induced, the electroencephalographic records have continued to show abnormally slow potentials for six months. The authors note, however, that the fact that most of the electroencephalographic changes produced by the electric shock therapy are "reversible" does not necessarily indicate that any change produced in the brain tissue is also "reversible." They are of the opinion that "the best index to therapeutic procedure" is the clinical status of the patient and not the electroencephalographic findings, "at least until such time as direct association between abnormality of the electroencephalogram and undesirable abnormality of some other phase exhibited by the patient is established."

—*Concluded from page 202*

166th Street, Jamaica; John J. Masterson, 401 76th Street; E. Terrill Montgomery, 131 Fulton Ave., Hempstead; John M. Scannell, 150-11 89th Avenue, Jamaica; James F. Vavasour, Amityville; Herbert T. Wikle, 195 Hicks St.; Thomas B. Wood, 878 Park Pl.

EDITORIAL REPRESENTATIVES

Chairman—Thomas B. Wood, 878 Park Place; Thomas M. Brennan, 39 8th Avenue; Carl A. Hettesheimer, 17 Long Drive, Hempstead; John M. Scannell, 150-11 89th Ave., Jamaica; Alec N. Thomson, Cutchogue.

MEMBERSHIP COMMITTEE

Chairman—Arthur C. Martin, Hempstead; Vice-Chairman—Harold W. Draffen, 8815 164th Street, Jamaica; Richard M. Arkwright, Huntington; John P. Baker, 51 S. Oxford Street; Arren C. Buchanan, 115 Kingsbury Rd., Garden City; Ralph M. Burns, Hicksville; Joseph L. Byrne, Bay Shore; Frank N. Dealy, 8904 148th Street, Jamaica; Franklin W. Fry, 131 Fulton Avenue, Hempstead; Donald K. Flessa, Babylon; David Edwards, Easthampton; George B. Granger, Rockville Center; Austin B. Johnson, 1502 Mott Ave., Far Rockaway; Charles H. Loughran, 277 Park Place; John A. McCabe, 309 Clinton Avenue; James P. McManus, 104-05 195th St., Hollis; Frank E. Mallon, 1135 Park Place; Russell Meyers, 200 Hicks St.; L. Gaston Papae, 434 Bay Ridge Parkway; John F. Raycroft, 178 Midwood Street; Stuart T. Ross, 190 Fulton Ave., Hempstead; C. Douglas Sawyer, 34 Prospect Park West; Evans F. Sealand, 8628 105th Street, Richmond Hill; Julius Tenke, Glen Cove; Wilbur S. Stakes, Patchogue; Victor K. Young, Riverhead; Alexander E. Zirpolo, 1255 Dean Street.